THE ARCHITECT & BUILDING NEWS

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- BUILDING CENTRE NEW PREMISES
- THE INFLUENCE OF DESIGN ON PRODUCTIVITY

JANUARY 17, 1952 · VOL. 201 · NO. 4335 · ONE SHILLING WEEKLY

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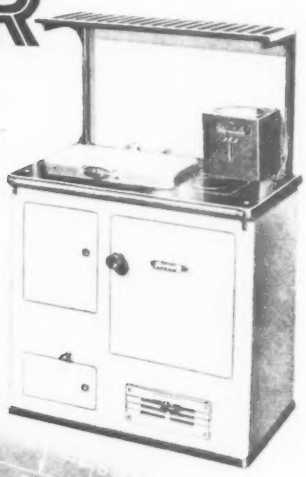
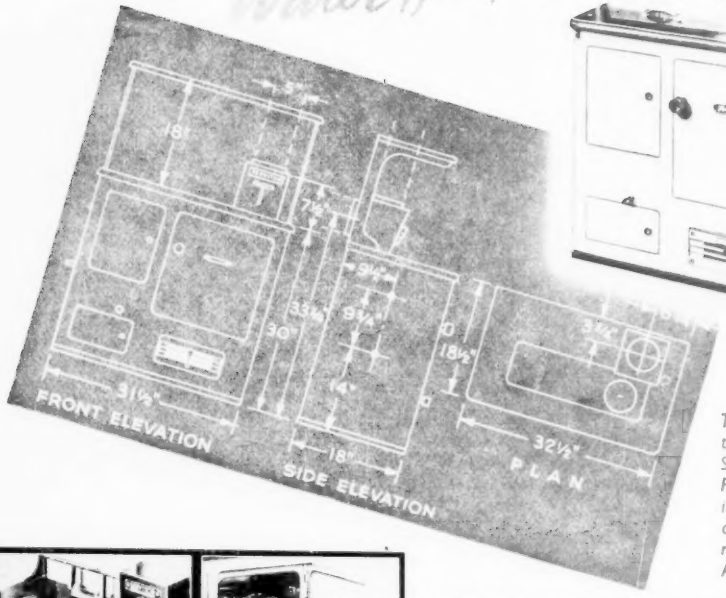
A

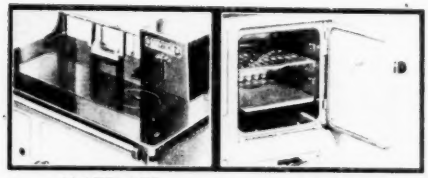
the SERVITOR

Cooker and Water Heater

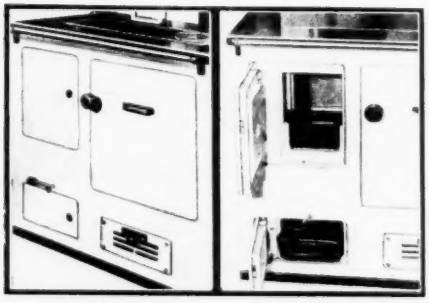




The "Servitor" fulfils the British Standard Specifications for Solid Fuel Cookers and is included in the List of Approved Appliances recommended to Local Authorities.



HOTPLATE OVEN



CLOSED-UP VIEW FIRE & ASHPIT

The "Servitor" is the very latest freestanding insulated Cooker, incorporating many novel features and designed for use on any type of solid fuel. It operates continuously and economically, at high efficiency, and provides a full cooking service, and in addition gives a constant supply of hot water for baths and washing up.

Machine-faced hotplate. Mercury Thermometer. Machined doors for air-tightness. Large Oven. Simple Controls. Adaptable Flue Outlet for vertical or horizontal connection. Streamlined appearance.

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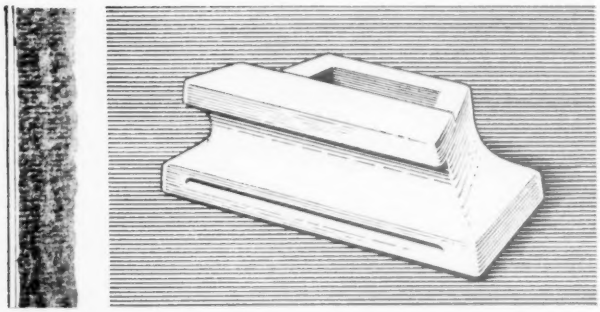
Helpful information on the many aspects of providing efficient services for cooking, hot water, space heating and refrigeration for all types of buildings may be obtained from local Gas Undertakings.

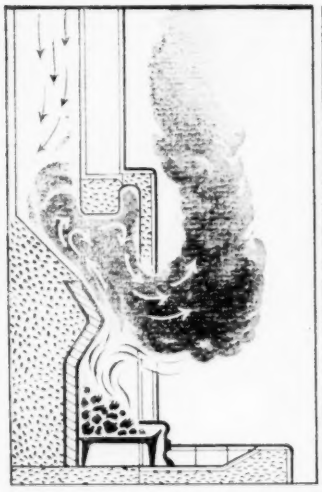
GAS

ISSUED BY THE GAS COUNCIL, 1 GROSVENOR PLACE, LONDON, S.W.1. Telephone: SLOANE 4554

GC12



The ready-made, scientific answer to the smoke problem



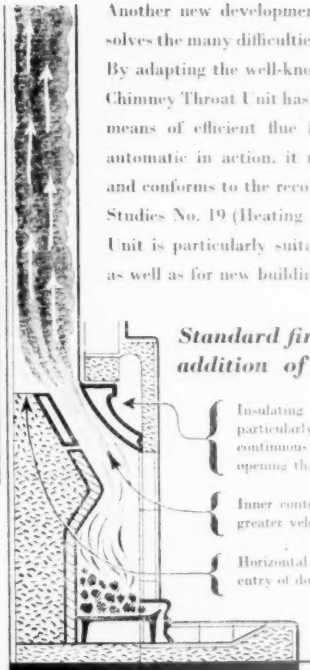
Standard fireplace with usual faults that encourage smoking

- ★ The throat is too wide.
- ★ The surround is not protected from hot flue gases.
- ★ No provision against downdraught, i.e. no horizontal smoke shelf.
- ★ Hollows, projections and bad shaping above fire cause smoke eddies and turbulence.

Building Materials with Service

Another new development of the Finch Research Division solves the many difficulties caused by faulty flue construction. By adapting the well-known "Rumford" principle the Finch Chimney Throat Unit has been produced to provide a positive means of efficient flue installation at low cost. Entirely automatic in action, it reduces excessive room ventilation and conforms to the recommendations in Post War Building Studies No. 19 (Heating and Ventilating of Dwellings). The Unit is particularly suitable for fireplace replacement work as well as for new building.

Standard fireplace with the simple addition of a Finch Throat Unit



Insulating void gives protection to surround—particularly useful asset with the growing use of continuous-burning fires which stand higher in the opening than the usual stool bottom grate.

Inner contour is streamlined to induce 2½ times greater velocity of rising smoke column.

Horizontal smoke shelf at back and sides bars entry of downdraught.

THE Finch ORGANIZATION

Write or telephone Mr. Butler, manager of the Finch Fireplace Division, for full details and specifications of the Finch Throat Unit; or write for fully descriptive brochure. It is part of the Finch service to answer your queries and offer help in solving any of your building problems.

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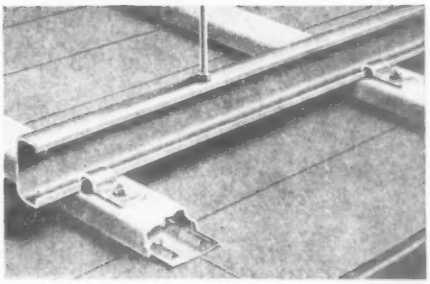


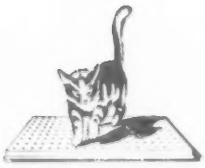
The hum and clatter in a weaving shed must be heard to be believed but this one has a roof lining of Acousti-Celotex Tiles which absorbs most of the noise

Factories, Power Stations and Engine Control Rooms represent some of the many applications of sound-absorbing materials which are being installed by the Cullum staff.

Offices, Schools, Canteens and Restaurants with sound-absorbent treatment on ceilings or walls also give quieter conditions.

Illustrated alongside is the Cullum Channel Fixing System showing the method of forming suspended ceilings of Acousti-Celotex Tiles. A coloured brochure with full details will be sent on request or a practical expert will be pleased to call.

From analysis to installation we provide a complete acoustic service.



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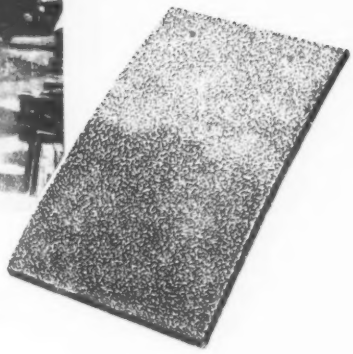
The photograph opposite shows a view of our firing ovens.



11×7 *plus*

Dignus 11 × 7 Sandstorm Roofing Tiles are guaranteed for 50 years. Such a guarantee cannot be lightly given and indicates our confidence in every stage of manufacture. The firing of roofing tiles is particularly important and the Kilns are connected to electrically controlled heat pyrometers, which together with the infinite care taken ensures the consistently high standard of quality. For the full story send for a copy of the Dignus Brochure. The Staveley U.D.C. Housing Estate illustrated below is roofed with Dignus Sandstorm Roofing Tiles.

GUARANTEED FOR FIFTY YEARS

DIGNUS SANDSTORM *Tiles*

DIGNUS LIMITED, KEELE, NEWCASTLE, STAFFS.

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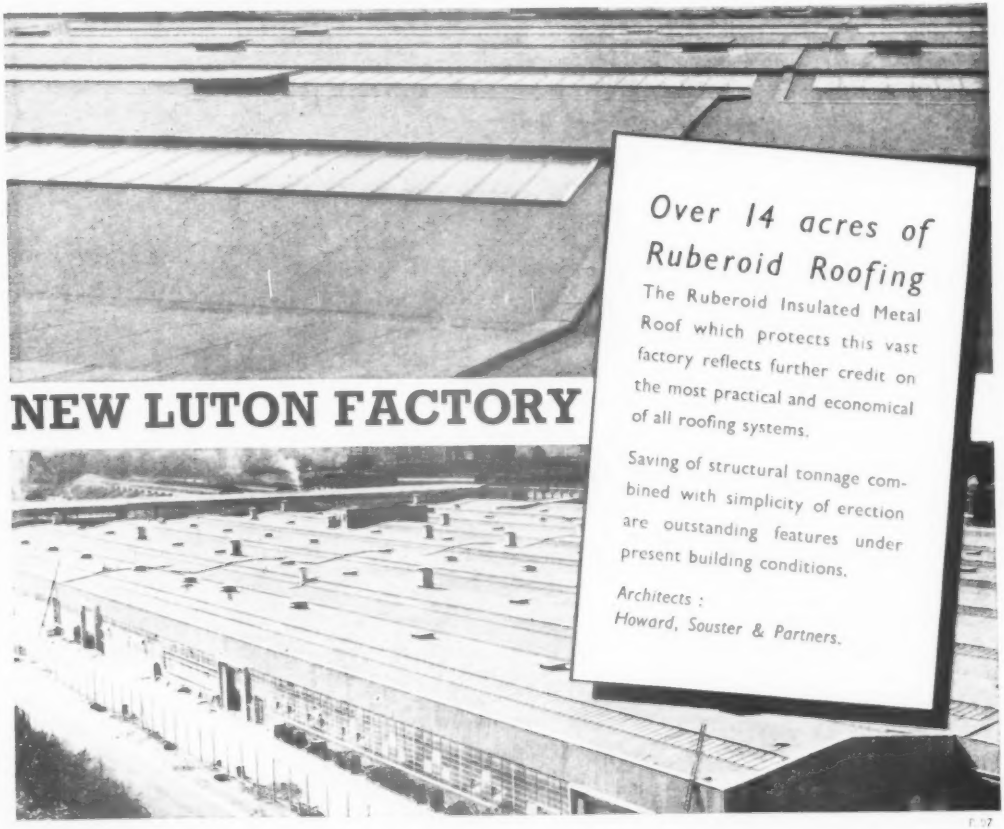
FOR VAUXHALL MOTORS LIMITED



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"Not for an age—but for all time"

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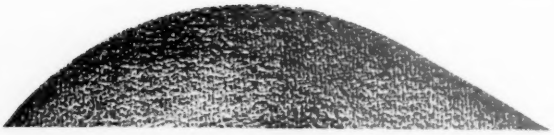
2 Free maintenance of roof tiling fixed by Marley craftsmen for 10 years.



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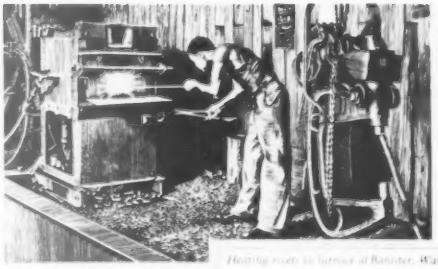

Heating rivets in furnace at Banister, Walton's works, Trafford Park, Manchester

Banister, Walton build in steel

LONDON, S.W.1 — 82 Victoria Street — MANCHESTER 17 — Trafford Park — BIRMINGHAM 16 — 61-63, Western Road

Vol. 201. No. 4335

THE ARCHITECT & BUILDING NEWS

January 17, 1952

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THE STEEL SITUATION

FROM the importance given to the subject during the Prime Minister's visit to America, the steel situation would seem to be regarded as the linchpin of progress in 1952.

It is difficult for the layman—the simple-minded man in the street—to understand why there should be a steel shortage. Last year certainly saw a gradual reduction in the amount of ore and scrap being imported into this country; but it also saw a general increase of home-produced iron-ore and an average production of steel and iron was maintained; it also saw a considerable reduction in scrap consumption and production within this country and steel stocks gradually fell as the year drew to its close. It would, therefore, seem that the Government's contention that the steel shortage is consequent on the heavy fall of imported scrap (particularly from Germany) and of imported iron ore can be accepted up to a point. But why, with any sort of planning, should these things be? Iron ore is not a raw material which is exactly scarce in this country, though scrap may become less available as a result of our past hundred years of export policy of iron and steel products. Ill-related winning of ore and of coal may, more likely, be the real cause of the present shortage.

In view of all this it is a little difficult to see that the promise of an extra 1,000,000 tons of steel from the U.S.A. in 1952 is really such a world-shattering solution as some people wish to make out. It is, in fact, exactly equivalent to three months' average production of steel in this country (on last year's figures). Is it not possible to save this amount or, at any rate, the other 500,000 tons which we are told is the rest of the 1952 shortage, and so to balance the account at home? Just how much political background all this business has is difficult to say—but the nationalization bogy has to be laid and shown to be laid both in this country and in America—it is therefore anyone's guess, in the absence of facts, whether the shortage is altogether real or is engineered to assist in the laying process.

Assuming that it is real or even in part real, are there any other ways of meeting the situation so that production shall not be slowed down and capital expenditure, as an insurance for the future, not be curtailed still more? In the matter of scrap it is obvious that, as the end of the war recedes into the past, there will be less scrap available, both at home and abroad, but what of the effects of post-war replacements both in industry and in armaments?

Steel is being poured into new factories and into new machinery, and much accommodation and plant is being replaced; any cursory inspection of the industrial areas of the country indicates that there is much too long a time-lag in this replacement turnover and that the amount of potential scrap is still large. On the other hand, if so much steel is being absorbed in rearmament (whether from new production or from stocks) then it is reasonable to ask what is happening to existing out-of-date armaments (of all kinds) and if there cannot be a quicker return of these to the field of scrap. From such experience as we may have had the services are not the most expeditious organizations in this matter of turning-over waste.

As far as the building industry is concerned, there is no doubt that it hates and even fears a return to quotas, permits and priorities in steel. There is always a risk, and it may as well be faced, of new black markets and the import of inferior constructional iron and steel from abroad which have been known before.

The important factor is, all the time, waste. The use of steel must be more efficient, it must not be wasted. Research must be intensified to bring about greater structural security parallel with reductions

in quantities of material used. New methods of fabrication must be investigated without delay; many are already in use in a half-hearted way but are not thoroughly understood, and some are still more related to the laboratory than to the site.

Substitutions must be made and allowed (by Government departments and Local Authorities alike); aluminium for steel, concrete for steel, and so on. One of the most important of these is reinforced concrete in any form, but in particular in its newer developments of pre- and post-stressed reinforcements and vibrated concrete. As far as the building industry is concerned this may well be the greatest factor in saving steel, always provided the present shortage of steel rods can be overcome sufficiently rapidly. This particular shortage is a curious one for any Government or any steel industry to allow to arise, but it exists, is getting worse and should receive top priority.

Steel is unfortunately not an isolated factor for the building industry; the latter cannot hold its own or contribute fully to the national welfare and security without greater production; and this must be brought about by the industry accepting new and improved methods, subscribing to thorough planning within its own ranks, by greater internal co-operation and by the systematic eradication of waste. It can no longer avoid facing these problems and accepting these and other solutions that will become, or already are, apparent in these early days of 1952.

EVENTS AND COMMENTS

BYGGMÄSTAREN CHANGES

The Swedish Architectural paper, Byggmästaren, is being reorganized and in future will appear in two parts. The first will deal with architecture and the second with building technique. The editions may be bought separately or by a combined subscription which is considerably less than twice the price of one edition. The combined subscription is about £2 10s for twelve monthly issues of each paper. Each issue contains a short summary of the contents in English, and although this is a good idea I feel that more British architects would buy it if the summary were fuller and if the captions to illustrations were in English and Swedish. L'Architecture d'Aujourd'hui recently changed to dual language captions and the Architectural Review has for some time included a summary in French, German and Russian.

Byggmästaren No. 21 of 1951 contains an illustrated article on the enlarged premises of Byggtjänst—the Stockholm building centre—which provides an interesting comparison with the new home of the Building Centre.

Barbara Hepworth's stone carving "Contrapuntal Forms" which was in the South Bank Exhibition, is now at Harlow New Town.

YUGOSLAV ARCHITECTS IN BRITAIN

Under the auspices of the British Council a small party of Yugoslav architects is at present on a visit to this country. Mr. Anthony Chitty, who visited Yugoslavia fairly recently, arranged the itinerary for the party. Apart from a certain amount of formal entertainment from official bodies the party has had a chance to see some of London's architecture, both historical and modern and to take a short tour in the country accompanied by Mr. R. A. Duncan as guide. Few of the party either understand or speak English and conversation must be in French unless, of course, you speak the appropriate language. During their stay in London the visitors were the guests of British architects.

PROFESSOR PEVSNER

Professor Nikolaus Pevsner's erudition, energy and productive capacity continue to astound me. A constant stream of articles, on the most unlikely but absorbingly interesting architectural personalities, pour from his pen. New guide books to the architecture of England by counties pop up in the book shops daily. He always seems to be broadcasting and is always worth listening to. How does he do it? Perhaps the most remarkable thing about him, however, is his wonderful command of the English language and of his intimate knowledge of the English way of life. In a recent broadcast he came down strongly in favour of Basil Spence's Coventry Cathedral design and finished by hoping, with many of us, that Mr. Eccles would see his way to granting a licence for it. If indeed a licence does arrive one of the immediate problems will be to find enough masons to work the stone. Sir Giles Gilbert Scott's method (on the House of Commons) of

recruiting all the mason pensioners will scarcely meet the sustained demand of a cathedral. The bold answer would be to step up the training of masons in the Coventry area and even to start a special school on the site.

PASTEL SHADED BRIXHAM

The Brixham Chamber of Trade wants the town to be painted in pastel shades. This is very restrained of them. They have decided to back a three-year colour programme to brighten the grey walled cottages of the fishermen. Their motto is "A colour symphony with as few discords as possible." "Henry tell the bosun that he can't come to sea in that yellow oily, it clashes with the binnacle!"

THE OFFICIAL ARCHITECT

Greetings to the new cover of the *Official Architect*. It is a great improvement even if it does remind one of another paper seen about the place from time to time. Pity the change from the old one was not made in time for it to be entered for the recent ABS competition.

FLUNKED

The American verb to flunk is indeed useful in that it works both ways. You flunk an examination or alternatively it flunks you. Either way you fail. Those who think that too high a proportion of candidates taking the R.I.B.A. final are failed may draw some consolation from the news that last May 20 students took the registration examination of the Georgia State Board of Architects and 20 flunked. Apparently you need not have had any previous experience or training in architecture to sit for the exam so that perhaps it is just as well that it flunked them all.

NEW STOVES FOR OLD

Something rather like the Aladdin principle was recommended by Professor F. G. Simon, in a recent lecture to the Women's Advisory Council for solid Fuel, as a means of making the nation's solid fuel resources go further. He suggested that the Government should offer new closed stoves free of charge to housewives. This would raise the fuel efficiency of the country from 20 to 40 per cent and save twenty million tons of coal a year. Not a bad idea except that they would have some job manufacturing enough stoves, but then what a lot of scrap they would collect.

MISCELLANEOUS NEWS

I am glad to hear that there is considerable hope that Mr. Grey Wornum will be well enough to come to England to receive the Royal Gold Medal.

The house designed by Mies van Der Rohe for Dr. Edith B. Farsworth cost $25 per square foot and architect and client are now busy suing each other. Client alleges that her top price was $40,000, whereas house cost $74,000. Architect is suing for "mechanics lien foreclosure" to recover money actually spent.

A leading article in the *Evening Standard* last week described the front of a building as being of "concrete and vitreous glass."

Auguste Perret has been awarded the Gold Medal of the American Institute of Architects. Has a British architect ever won it? Yes, surely Sir Patrick Abercrombie?

THE SHELL MEX COMPETITION

I imagine this will be a popular competition. Filling stations are among the most derided roadside "improvements." The conditions seem clear and reasonable. It will be interesting to see whether any new ideas emerge.

ABNER

Layout of the first section of Normand Park, Fulham, which was opened on Monday. It was designed and carried out by the L.C.C. Parks Department under the supervision of Mr. L. A. Huddart, chief officer.

NEWS OF THE WEEK

Address to Students

As previously announced, the President R.I.B.A. had invited his partner, Mr. J. L. Gleave, M.A., M.T.P.I., A.R.I.B.A., to give the address to Students this year on the occasion of the General Meeting to be held on February 5th, 1952. Since this arrangement was made, however, Mr. Gleave has had to go to America and will not, therefore, be available to address the Students.

His place is being taken at short notice by Mr. Robert H. Matthew, C.B.E., A.R.I.B.A., Architect to the London County Council.

The criticism of the work submitted for the Prizes and Studentships will be given, as already announced, by Mr. Donald H. McMorran, F.R.I.B.A. and the President will present the prizes to the winners.

Stevenage New Town: Appointments to Corporation

The Minister of Housing and Local Government, Mr. Harold Macmillan, has appointed the following four new members of the Stevenage Development Corporation:—

Lt.-Gen. Sir Charles King, K.B.E., C.B., to be Deputy Chairman. *Major R. G. Howard, M.B.E., J.P.*, Chairman of the Stevenage Urban District Council. *Mr. Sidney Jackson, F.C.A.* *Mr. John Watson, P.P.R.I.C.S.*

Mrs. Evelyn Denington, Mr. P. T. Ireton, J.P., and Mr. C. T. Every, C.B.E., have been re-appointed.

The appointments are for a period of two years. These seven members, together with the present Chairman, Sir Thomas Bennett, C.B.E., F.R.I.B.A., now constitute the Corporation.

Examination in Professional Practice and Practical Experience

The R.I.B.A. Board of Architectural Education have given exhaustive consideration to the possibility of setting up some machinery for dealing with cases of alleged hardship which may arise, particularly in the case of ex-war service candidates, as the result of the regulations for the Examination in Professional Practice and twelve months' practical experience which came into operation on January 1, 1951. The Board, after considering the matter from all possible angles, have decided with regret that it is impracticable to set up any machinery for dealing with appeals.

C.A.S. & C. & B.A.S Dinner

The fourth joint annual dinner of the County Architects' Society and the City and Borough Architects' Society, was held recently at the Tallow Chandlers' Hall, Dowgate Hill, with Mr. L. C. Howitt, president of the City and Borough Architects' Society, presiding, supported by Mr. J. Harrison, president of the County Architects' Society.

Seventy-six members and guests were present, the guests including the Rt. Hon. Lord Kennet, P.C., G.B.E., D.S.O., D.S.C., chairman of the A.M.C.; Sir John Maud, K.C.B., C.B.E., Permanent Secretary, Ministry of Education; Mr. A. Graham Henderson, A.R.S.A., president of the R.I.B.A.; Mr. C. D. Spragg, C.B.E., secretary of the R.I.B.A.; Alderman A. Moss, J.P., of the City of Manchester; Mr. D. M. Nenk and Mr. S. A. W. Johnson Marshall, A.R.I.B.A., of the Ministry of Education; Mr. W. A. Rutter, F.R.I.B.A., Chief Architect, Ministry of Works; Mr. A. G. Chant, F.R.I.B.A., past president and past hon. secretary of the County Architects' Society.

European Housing Conference

A conference on housing is to be held in Paris on February 16-18, organized by the International Confederation of Free Trade Unions. A statement issued last Friday by the Confederation said that the housing of workers in Western Europe was no less important than the requirements of the major problems of defence, and unless more houses were produced recovery and rearmament would be imperilled.

N.T. New Acquisitions

The National Trust has received gifts of Snowshill Manor, near Broadway, Worcs, and Bredon Tithe Barn, near Tewkesbury.

Snowshill will be open from May 1st, 1952, on Mondays, Wednesdays and Thursdays, 2-6 p.m. and on Saturdays and Sundays from 11-1 and 2-6 p.m.

Bredon Barn is open on Tuesdays and Fridays, 2-5 p.m.

Guy's Cliffe House, Warwick

The Minister of Housing and Local Government has decided to keep the Preservation Order on Guy's Cliffe House, Warwick, for the time being. He has asked the owner not to make a fresh application for permission to demolish it until the Spring so as to give a last chance for someone to come forward and buy the house and grounds.

Guy's Mill, the well and the archway in the grounds, have been listed under Section 30 of the 1947 Town and Country Planning Act as buildings of architectural and historic interest, and the chapel and Guy's Cave have been scheduled as ancient monuments. All these form the group to which the Minister refers.

War Damage Payments in 1951

The War Damage Commission paid out £72 million during 1951, compared with £92 million in 1950 and £105 million in 1949. The average weekly rate of payments in the last quarter of 1951 was £1,240,000.

The Commission paid 181,000 "cost of works" claims for repairs during the year, and made 40,000 payments on account. The amount involved was £62 million of which £60 million was paid to private owners and the remainder to local and other public authorities. About three-fifths of this sum was for the repair and rebuilding of houses.

Other principal items were: commercial buildings, £6½ million; factories, £7 million; shops, £2½ million; churches, £2½ million.

Value payments for total loss properties amounted to £10 million, of which £3¾ million related to houses.

Greater London's share of the total was £50 million.

Total war damage payments by the Commission now amount to nearly £1,020 million in 4,373,000 separate payments. Contributions by property owners during and after the war amounted to £198 million.

R.I.B.A. Contract Forms recommended for Bradford

The use of the R.I.B.A. form of contract for all Bradford Corporation building work for a trial period of one year was recommended by Bradford Corporation Finance Estimates Subcommittee recently, the matter to be reviewed at the end of that period. The main difference between the R.I.B.A. contract form and that at present used by the Corporation is that the former would allow for an earlier payment for materials. The Corporation's present contract does not provide for payment of materials on the site until they are actually used, whereas the proposed new contract would permit payment of up to 90 per cent of the cost of materials "on site."

COMING EVENTS

Student Planning Group

January 24, at 6.30 p.m. J. S. Eagles, Managing Director of Whitbread & Co. Ltd., will speak on "Pubs and People," at 28, King St., W.C.2.

Architectural Association

January 30, at 8 p.m. Talk by Mr. Hope Bagenal, F.R.I.B.A., on "Exposure, Durability and Maintenance in Modern Design," at 34-36, Bedford Square, W.C.1.

January 30 to February 22nd. Exhibition of Photographs by Members.

CORRECTION

At the conclusion of the article on The Manchester Free Trade Hall on page 16 of the A. & B.N. of 3rd January, the architect's name should have read Leonard Howitt and not Cecil Howitt.

Allocation of Steel for Building

A reminder is now issued by the Ministry of Works about the allocation of steel for building. As already announced by the Ministry of Supply, the steel allocation scheme is to be re-introduced on February 4, 1952. The detailed arrangements for allocation of steel for building, issued last October will be unaltered, apart from the change of date.

Applicants for steel authorizations for work in progress, who have already sent in Form MOW.2065, are not required to re-submit this application They are being asked for additional information in individual cases where necessary and I.S. Authorizations are now being issued.

Any architect or contractor requiring building steel after February 4, 1952, who has not already notified his requirements to the appropriate authority, is reminded that he should do so without delay. This includes steel for which D.O. and P.T. symbols have been awarded.

The appropriate authorities are: *For work done under a building licence (other than housing)*—the Ministry of Works Regional Licensing Officer; *for housing*—the local authority; *for schools*—the local education authority; *for all work for Government departments, nationalized industries, local authorities, regional hospital boards, etc.*—the authority for whom the work is being done.

All future applications for building licences must show the quantity of steel required.

Other Steel News

Production figures issued by the B.I.S.F. give 15,638,500 tons of steel ingots and castings in 1951 against 16,292,700 in 1950; and 9,668,800 tons of pig iron against 9,632,900 tons in 1950. The Federation hopes that steel output in 1952 will reach 16 million tons.

Mr. Harold Macmillan said at Southampton that he hoped more steel would be available for war-damaged towns later in the year, but there was little to be done until it could be seen how the new steel allocation scheme worked out at the end of the first and second quarters.

The Crittall Manufacturing Company, Limited, have notified the 1,300 workers in their Braintree metal window factory that as from Monday they would work a four-day week.

Standard Metal Windows and Doors

The British Metal Window Manufacturers' Association, in agreement with the Ministry of Works, introduces new price schedules for metal windows and doors made to B.S.990 as from January 1, 1952.

The new prices incorporate the general increase of 7½ per cent which, since September 4, 1951, has operated provisionally pending the preparation of the new schedules. At the same time allowance has been made for an increase in the cash discount terms from 2½ per cent to 5 per cent with a compensating increase in list prices.

There will be no increase in prices overall as a result of these changes, but individually some prices will be increased and others decreased.

Competition Open

Shell-Mex and B.P., Ltd., invite architects to submit designs in competition for petrol filling and service stations.

The competition is in three sections:

A. Design for country service station.

B. Suburban or neighbourhood service station.

C. Main motorway service station.

The assessors are: David du R. Aberdeen, B.A., F.R.I.B.A., A.M.T.P.I., D. A. Birchett, A.R.I.B.A., Frederick Gibberd, F.R.I.B.A., M.T.P.I.

The premiums in each section are: to the author of the design placed first by the assessors £300, to the author of the design placed second by the assessors £150

Two additional prizes of £25 each will be awarded to designs in each section of the competition if, in the opinion of the assessors, they contain features of special interest in design.

The last day for submitting designs is April 18, 1952.

Conditions may be obtained on application to Publicity Department, Shell-Mex and B.P., Ltd., Shell-Mex Deposit 1 guinea.

APPOINTMENT

Mr. K. Macrae, W.S., Edinburgh, has been appointed secretary and treasurer of the Royal Incorporation of Architects in Scotland in succession to the late Mr. J. T. Middleton, W.S.

CORRESPONDENCE

N.U.S. Report

To the Editor of A. & B. N.

Sir,—By far the most important issue of the recent correspondence on the N.U.S. Report is that suggested by Mr. Loweth that a party of British architects should visit the Soviet Union.

This proposal should be welcomed not only by many British architects who quite rightly are not satisfied by second-hand reports, pro- or anti-, but equally by Soviet architects, whose present scale of civic building and planning is their best proof that Soviet life is thoroughly orientated towards a future of peace.

That a party of Soviet architects, as Mr. Loweth proposed, should visit this country at the same time is also extremely important. But I believe considerably more British delegations have visited U.S.S.R. since the war than there have been Soviet delegations to this country. One reason for this is that the Soviet government, through their Society for Cultural Relations, VOKS, supports foreign delegations from "across the Iron Curtain," so that the hospitality extended to foreigners is something financially beyond the reach of parallel organizations in Britain.

The delegation of which I was a member last summer, consisting of doctors, scientists, teachers, students and others, paid nothing for three weeks of travelling and keep, that must otherwise have cost each person some £200 or more. An architects' delegation would be no less generously treated and no less free to travel to places of their own choice. But what organization in this country could afford to do their Soviet guests so well? The answer may be: So much the better that our visitors could not be so generously treated, since, according to the N.U.S. Report, personal contact is preferable to lavish entertainment.

But again, our architects would certainly be invited by the President of the Soviet Academy of Architecture. If, therefore, we are to reciprocate in this respect, our invitation must surely come from no less person than Mr. Graham Henderson. The matter thus becomes one for the R.I.B.A. Council, who no doubt would willingly act, given sufficient backing by R.I.B.A. members.

Carried out in this way, the result looked for by Mr. Loweth "in the advancement of knowledge plus a better understanding between our two countries thus obviating the drift towards war," would be ten times assured.

I am, etc.,
F. W. B. CHARLES.

Oslo Broadcasting House

To the Editor of A. & B. N.

Sir,—In your issue of January 10 Mr. Norman Westwood describes the Oslo Broadcasting House as being "by far the most inspiring (building) of any we saw in Norway."

By rating this building so highly he does not do justice to such other fine buildings as the Samfundshuset by Ove Bang or the Commercial High School by Blaksted and Munthe-Kaas which he must surely have seen.

Most of the architects I spoke to there regarded this as a highly refined but not really vital building.

Among the minor criticisms he mentions, the rather monotonous repetition of the square window must surely be one.

I am, etc.,
JOHN F. VERGETTE.

R.I.B.A. PRIZES AND STUDENTSHIPS, 1951

At a General Meeting of the Royal Institute of British Architects held on January 8th the Council's Deed of Award giving the results of the competitions for the Annual Prizes and Studentships awarded by the R.I.B.A. was read.

It may be noted that there were in all 504 competitors. The total value of the Prizes and Scholarships offered by the R.I.B.A. is over £3,000 a year.

The results of the various competitions are as follows:—

THE TITE PRIZE: A Certificate and £100 for the study of Italian Architecture. Subject: "A Chapel of Ease for a Roman Catholic Community." The prize was awarded to "Dionysius," Mr. Denys Michael McDonnell (probationer), Cambridge University School of Architecture.

THE SOANE MEDALLION and £120 for Architectural study abroad. Subject: "A Library and Art Gallery." Not awarded.

THE PUGIN STUDENTSHIP: A Silver Medal and £80 for the study of Mediaeval Architecture of Great Britain and Ireland. Awarded to Mr. Edward Lloyd Hughes, A.R.I.B.A., Birmingham School of Architecture. A Certificate of Honourable Mention was awarded to Mr. Ronald William Brunskill, B.A. (Arch.) (Manchester), A.R.I.B.A., Manchester University School of Architecture.

THE OWEN JONES STUDENTSHIP: A Certificate and £100 for the improvement and cultivation of knowledge of the successful application of colour as a means of architectural expression. Awarded to "Zodiac," Mr. David Radford (Student R.I.B.A.), Birmingham School of Architecture.

THE GRISSELL GOLD MEDAL and £35 for the encouragement of the study of construction. Subject, "A Modern Bank Building." Not awarded.

THE ANDREW N. PRENTICE BEQUEST: A Certificate and £150 for the study of Spanish architecture. Awarded to Mr. Gordon Ellis Michell, A.R.I.B.A., Architectural Association, School of Architecture.

THE ROYAL INSTITUTE SILVER MEDAL and £50 for an essay. Awarded to "Angelo," Mr. Harold Alan Meek, B.A. (Arch.) (Manchester), A.R.I.B.A., Manchester University School of Architecture, for an essay entitled "The Architect and his Profession in Byzantium." A Certificate of Honourable Mention was awarded to "Ragbolt," Mr. Edward Higham Jamilly, Dip. Arch. (The Polytechnic), A.R.I.B.A., for an essay entitled "The Life and Work of George Basevi, 1794-1845."

THE BANISTER FLETCHER SILVER MEDAL and £26 5s for the study of history of architecture. Subject, "The Maritime Architecture of the 18th Century." Awarded to "Columba," Mr. Jonas Benzion Lehrman (Probationer), Department of Architecture, The Northern Polytechnic, London.

THE ALFRED BOSSOM RESEARCH FELLOWSHIP and £250 for Post-Graduate Research. Awarded to Mr. Thomas Howarth, Ph.D. (Glas.), A.R.I.B.A., Manchester University School of Architecture.

THE GODWIN AND WIMPERIS BURSARY: A Silver Medal and £245 for the study of works of modern architecture abroad. Awarded to Mr. Roderick Nelson Guy, A.R.I.B.A., School of Architecture, The Polytechnic, Regent Street, London, and The Royal Academy School of Architecture.

THE HENRY SAXON SNELL PRIZE AND THEAKSTON BEQUEST, £125. Offered jointly by the R.I.B.A. and the Architectural Association for the study of the improved design and construction of hospitals, convalescent homes and asylums for the aged and infirm poor. Not awarded.

THE HUNT BURSARY, £75 for the encouragement of the study of housing and town planning. Awarded to Mr. Derek Alfred Walter Lovejoy, M.A. (L. Arch.) (Harvard), A.R.I.B.A., Dip. T.P., A.M.T.P.I., A.I.L.A., School of Architecture, The Polytechnic, Regent Street, London.

THE ATHENS BURSARY, £125 for study at the British School at Athens. Awarded to Mr. David Stuart Paterson, D.A. (Glas.), A.R.I.B.A., Glasgow School of Architecture.

THE HENRY L. FLORENCE BURSARY: A Certificate and £350 for the study of Greek, Hellenistic and Byzantine architecture of the Mediterranean Basin. Awarded to Mr. Charles Iredale Hobbis, A.R.I.B.A., School of Architecture, The Polytechnic, Regent Street, London.

THE ROME SCHOLARSHIP IN ARCHITECTURE, 1951: £400 per annum for two or three years' study and research at the British School at Rome. Offered by the R.I.B.A. and awarded by the Faculty of Architecture of the British School at Rome. Not awarded.

THE R.I.B.A. SILVER MEDAL and £10 in books for students of Schools of Architecture recognized for exemption from the Final Examination, 1951. Awarded to Mr. John Smith Bonnington, Student R.I.B.A., School of Architecture, King's College, Newcastle upon Tyne.

THE R.I.B.A. BRONZE MEDAL and £10 in books for students of Schools of Architecture recognized for exemption from the Intermediate Examination, 1951. Awarded to Mr. Douglas Hislop Herd, Probationer, School of Architecture, Edinburgh College of Art.

THE ARCHIBALD DAWNAY SCHOLARSHIPS, 1951: Three Scholarships of the value of £60 each for the advanced study of construction. Scholarships awarded to Mr. Iain Ralph Langlands, Student R.I.B.A., Department of Architecture, The Northern Polytechnic, London. Mr. Brynley Gilbert Jones, Student R.I.B.A., School of Architecture, Nottingham College of Arts and Crafts. Mr. Henry Barnett Pont Watson, Student R.I.B.A., Robert Gordons Technical College, Grays School of Art, Aberdeen.

THE R.I.B.A. HENRY JARVIS STUDENTSHIP AT THE SCHOOL OF ARCHITECTURE, The Architectural Association, 1951: £50. Awarded jointly to Mr. George Jolyon Briggs, Student R.I.B.A., and Mr. Andrew Keith Allen, Student R.I.B.A.

THE R.I.B.A. HOWARD COLLS TRAVELLING STUDENTSHIP at the Architectural Association, 1951: £15 15s. Awarded to Mr. Dudley Bernard Duck.

THE R.I.B.A. DONALDSON MEDAL at the Bartlett School of Architecture, University of London, 1951. Awarded to Mr. Robert James Fisher, Student R.I.B.A.

THE R.I.B.A. PRIZE FOR ART SCHOOLS AND TECHNICAL INSTITUTIONS, with facilities for the instruction of intending architects (£10 in books), 1951. Awarded to Mr. Peter Walter Honer, Probationer.

THE R.I.B.A. PRIZES for Public and Secondary Schools. These Prizes are of a total value of £10 10s.

(a) *Essays:*
No entries.

(b) *Sketches:*

(1) A prize of £7 7s to Ian C. Thornton, The Grammar School, Manchester, for his drawing of Baguley Hall, Lancashire.

(2) A prize of £3 3s to J. Hendry, The Grammar School, Northampton, for his drawings of Kingsthorpe Church, Northants.

Competition drawings will be on exhibition at the R.I.B.A., 66, Portland Place, London, W.1, from January 9 to February 5, 1952, inclusive, between the hours of 10 a.m. and 7 p.m., Saturdays 10 a.m. and 5 p.m. (Sundays excluded).

The President, Mr. A. Graham Henderson, A.R.S.A., will present the Medals and Prizes, and there will be an address to Students at a General Meeting to be held at 66, Portland Place, London, W.1, on Tuesday, February 5, 1952, at 6 p.m. A criticism will be given by Mr. D. H. McMorran, F.R.I.B.A., of the work submitted.

LANSBURY LODGE, POPLAR

The south front, with the main entrance (on the left) and windows to the sitting-rooms.

Architects: BOOTH AND LEDEBOER, F.A.R.I.B.A.

SITE PLAN

Planning

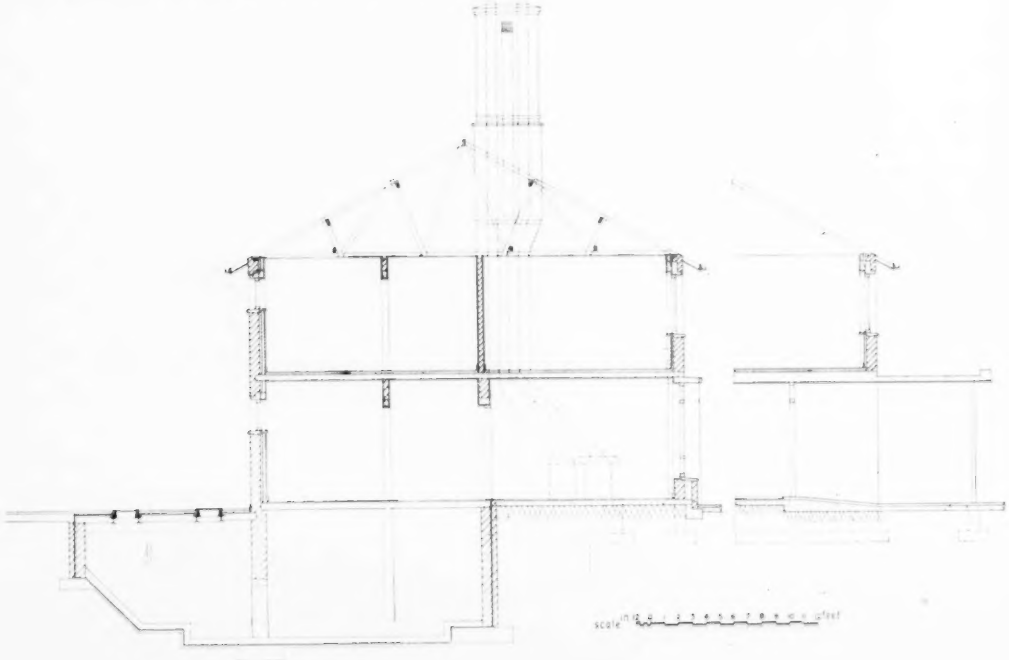
The home, which forms a part of the L.C.C. scheme for the new Lansbury neighbourhood, was designed for the L.C.C. Welfare Department. It provides for 49 old persons of both sexes. The accommodation is planned on two floors and consists of 33 single and 8 double rooms, each equipped with a wash basin and hanging cupboard. There are five sitting-rooms of varying sizes, a dining hall and kitchen, two flats for matron and deputy matron and accommodation for resident and non-resident staff.

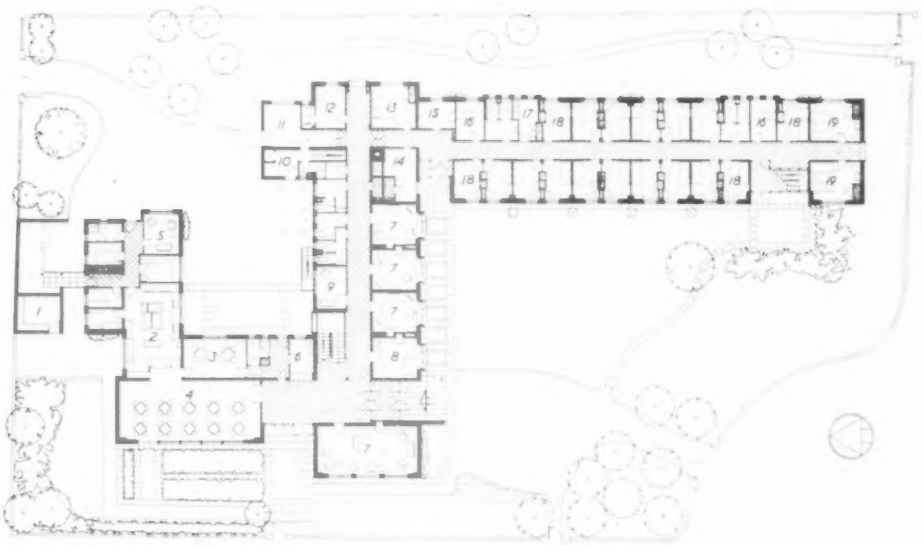
The building is designed to avoid a suggestion of an institutional atmosphere. An intimate and domestic character was sought; at the same time it was regarded as important that the residents should not feel segregated from the life of the neighbourhood. The site is at the junction of New North Street and Grundy Street, the latter being the main east-west traffic route through the neighbourhood. The L.C.C. proposals for street improvement provide for the replacement of the present junction by a small traffic roundabout. The main entrance is reached from Grundy Street. A service yard at the rear is accessible from Ricardo Street.

Living-room accommodation is sub-divided into a number of small sitting-rooms of varying sizes—some no bigger than ordinary living-rooms—to create a background of domestic character. Though the

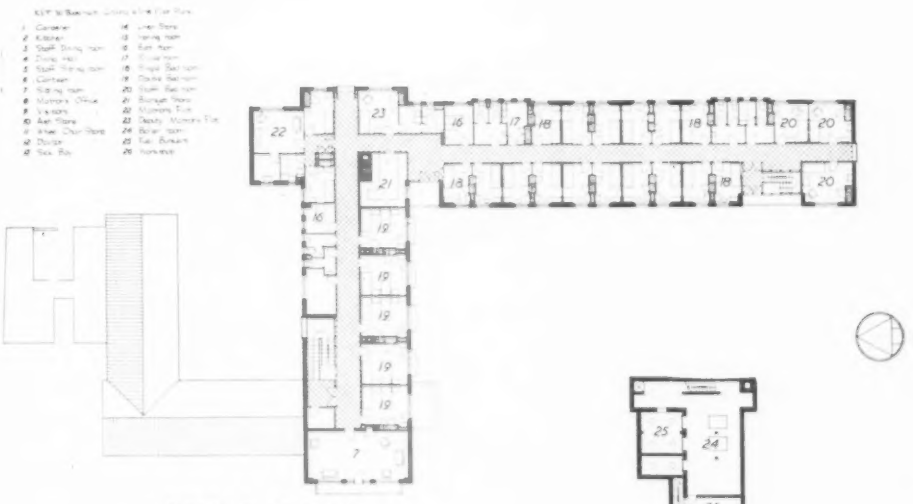
Continued on page 68.

A general view of the south front from Grundy Street.





GROUND FLOOR PLAN

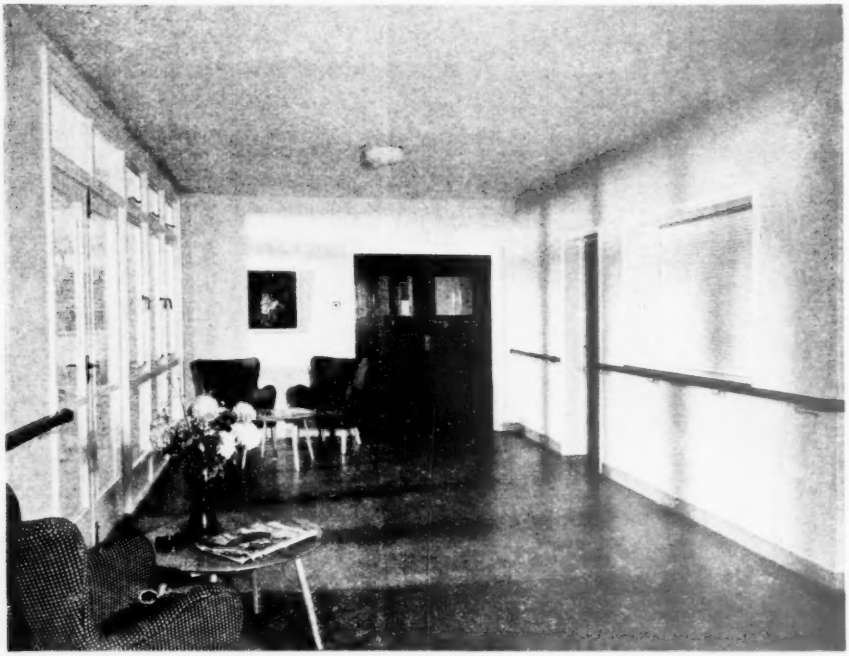


FIRST FLOOR PLAN

BASEMENT PLAN

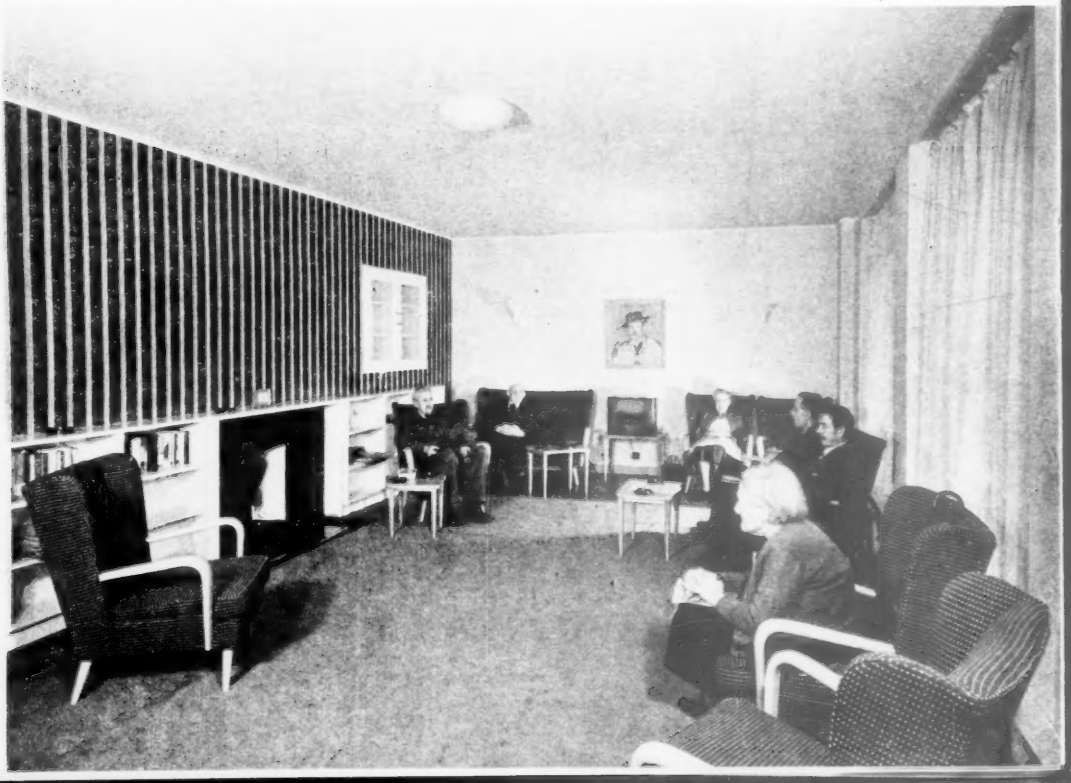
LANSBURY LODGE, POPLAR

G



The entrance hall. The glazed doors on the left give access to the west-facing loggia. The rolling shutter on the right encloses the canteen.

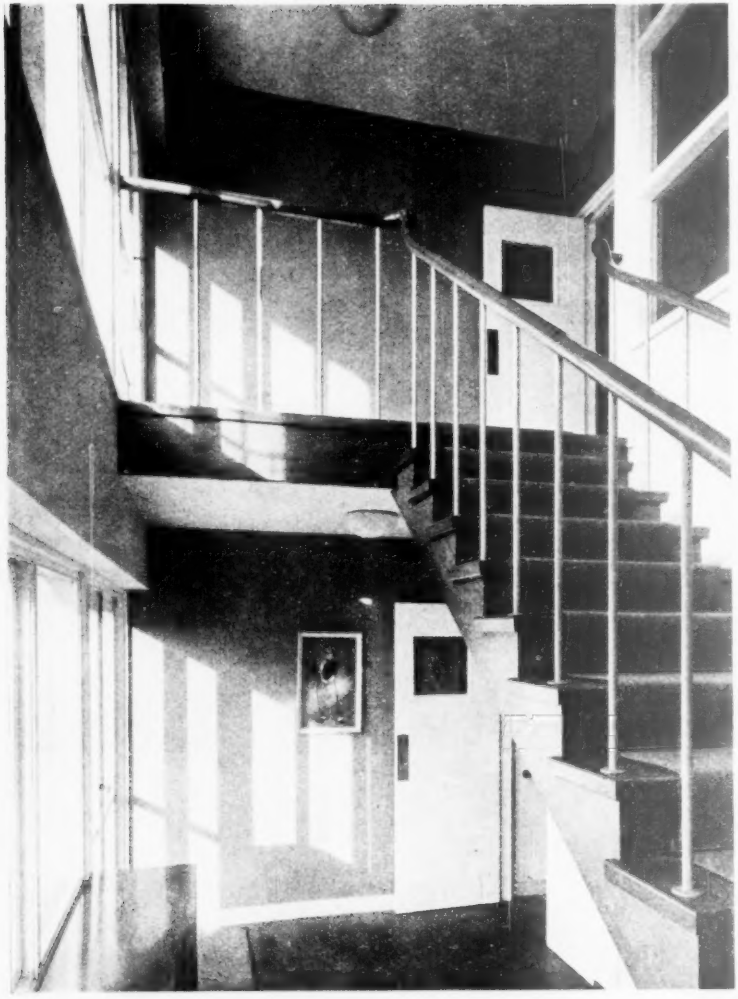
One of the large west-facing sitting-rooms.



The dining hall. The service hatches are on the right.

L.C.C. HOME FOR THE AGED, POPLAR

One of the small south-facing sitting-rooms.



The secondary stair at the south end of the bedroom wing.

(Continued from page 67)

building is set back from the main road, residents are able to see from their windows the activity outside.

The site falls slightly from north to south, and the length of the building necessitated some cutting away at the north end and building up at the south. Stepping of floor levels was not permissible because of risk of accidents and wheel chair traffic.

Horizontal planning was dictated by difficulties experienced by old people in negotiating stairs and the building was, therefore, limited to two storeys. The main stair is of exceptionally easy "going," having 12" treads and 5½" risers. A hand-rail is provided on both sides of all corridors.

Steps are omitted at changes of level at the principal entrances, easy ramps being provided so as to facilitate the movement of wheel chairs.

The sitting-rooms have either a south or west aspect. The majority of the bedrooms face east or west. A south-facing terrace is provided where residents may sit in warm weather. Two west-facing loggias and a covered balcony provide outdoor sitting space sheltered from the weather.

The building is faced externally with stock bricks and roofed with Welsh slates, to meet the recommendations of the L.C.C. which were based on consideration for the traditional early nineteenth-century housing typical of the locality. Reveals to windows are rendered and whitened. The horizontal lines of the building are relieved by prominent chimney stacks, a feature which has associations both with the traditional almshouse and with domestic comfort.

Construction

(a) 9" brick load-bearing walls on concrete strip foundations.
(b) External walls insulated with 3" hollow clay block separated from brickwork by 1½" cavity.
(c) Reinforced concrete first floor slab.
(d) Sound insulation in first floor by 1" glass silk quilt laid on structural slab and 2" fine concrete screed.
(e) Roof of timber with light timber trusses with bolted connections.
(f) Roof covering of Penrhyn grey random slates.
(g) Roof insulation 1" glass silk quilt laid on first-floor ceiling joists.
(h) Windows: metal in wood frames. All windows, except in service rooms, designed with recesses for curtains.

Equipment and Finishes

(a) *Floors.*
Non-slip floor finishes were regarded as desirable, especially in communal rooms.
Corridors: cork.
Lavatories and bathrooms: rubber.
Dining hall: wood block.
Sitting-rooms: wood block.
Staircase: hardwood carpeted.
Bedrooms: asphalte tiles.
Kitchen: non-slip tiles.
(b) *Walls.*
Walls generally plastered and flat finish.
Bedrooms: plastered and flat finish.

Corridors : plastered and flat finish.
Dining hall : plastered and flat finish.
Sitting-rooms : plastered and papered.
Kitchen : glazed tiles.

(c) *Ceilings.*
Plastered and whitened.

(d) *Window Boards.*
(i) Communal rooms: coloured glazed tiles and terrazzo.
(ii) Bedrooms: pressed metal.

(e) *Joinery.*
Painted gloss paint.

Heating

(a) Central heating by hot water. Pipework concealed in trenches and ducts. Radiators in recesses under windows.

(b) Boiler-room in basement with two sectional boilers supply heating and hot water. (The latter from a calorifier fed from either or both boilers.)

(c) Boilers fed by underfeed automatic stoker sunk below floor level and communicating direct to basement level bunkers.

(d) Bunkers charged through coal plates in service yard.

(e) Hand-operated ash hoist from boiler-room to ash store at ground-floor level opening on to service yard.

(f) Solid-fuel fires (in addition to radiators) in sitting-rooms for domestic atmosphere.

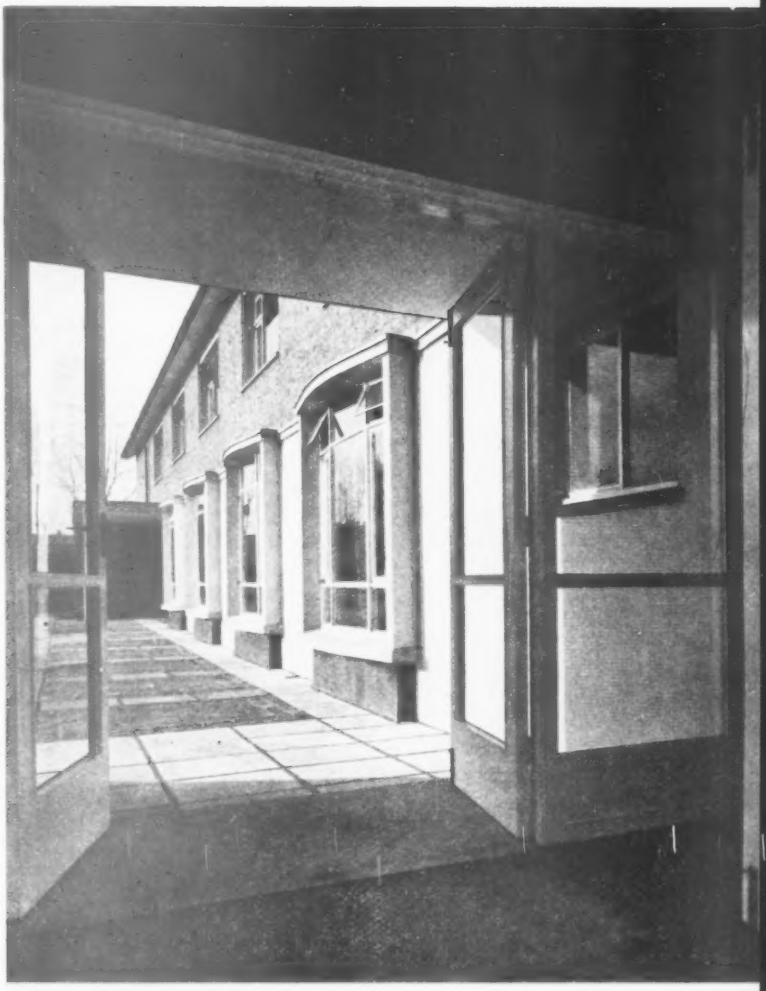
Electrical

(a) In addition to general lighting by ceiling points, individual wall lighting fittings are provided in sitting-rooms and beside each bed.

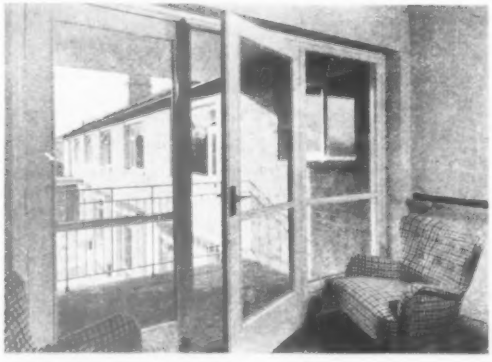
(b) Skirting points are provided in all main rooms for lighting fitting, vacuum cleaners, radio, etc.

Cooking

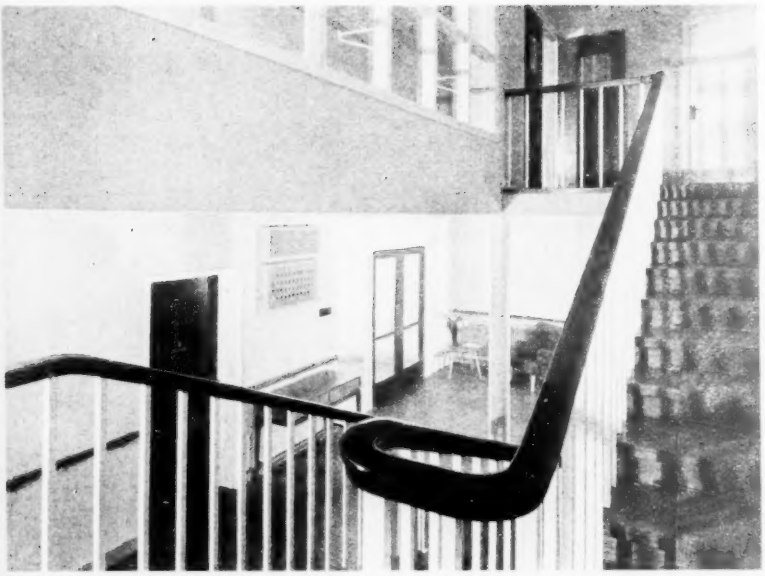
(a) The kitchen is fitted with the following equipment. All cooking equipment is gas fired :
2 62" ranges.
1 Closed hotplate.
1 Single-compartment gas grille.
1 2-pan fish fryer.
1 Hot closet.
1 15 cu. ft. refrigerator.
1 Potato peeler.
1 5-gall. water boiler.



The south front : view from the lobby at the junction of the two main wings.



The south front from the balcony at the junction of the two main wings.



The entrance hall from the half landing of the principal staircase.

The principal staircase from the entrance lobby.

LANSBURY LODGE
POPLAR

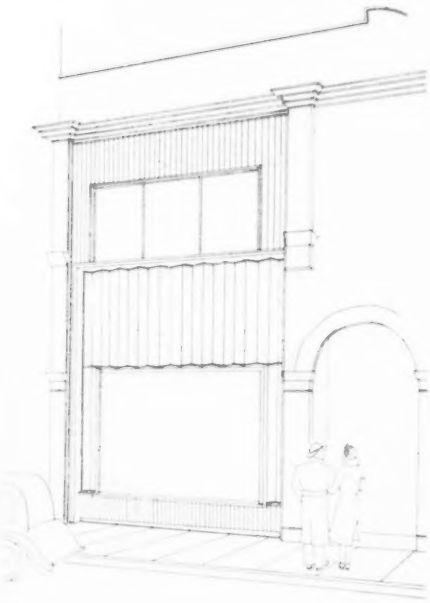
architects
BOOTH & LEDEBOER
F.A.R.I.B.A.

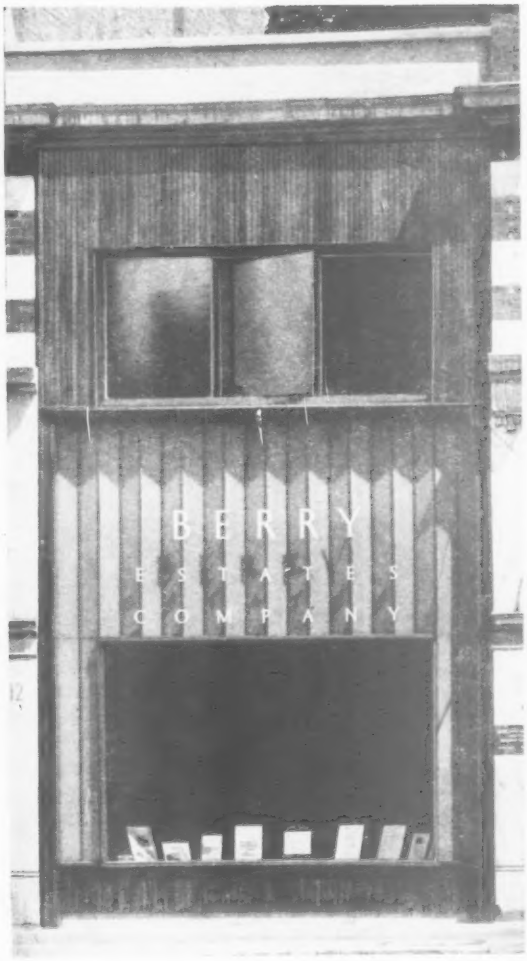
Quantity Surveyors
Messrs. Wakeman, Trower and Partners

Consulting Engineers
Messrs. Andrews, Kent and Stone

GENERAL CONTRACTORS
C. Miskin & Sons Ltd.
ASH HOIST
Bennie Lifts Ltd.
ARTIFICIAL STONE
Enfield Stone Co. Ltd.
AUTOMATIC STOKER
Ashwell & Nesbitt Ltd.
BRICKS
London Brick Co. Ltd. (Common bricks and partition blocks)
Cremer Whiting & Co. (Facing)
CARPETS AND MATTING
Russell Furnishings Ltd.
DOORS—FLUSH
Gliksten Doors Ltd.
ELECTRICAL INSTALLATION (including lighting fittings and panel fires)
Troughton & Young Ltd.
FIREPLACES
Bratt Colbran Ltd.
FLOORS
Armstrong Cork Co. Ltd. (Cork Tile).
E. J. Elgood Ltd. (Rubber)
Hollis Bros. Ltd. (Semastic Tile and Wood Block)
GAS INSTALLATION
North Thames Gas Board
GLAZED WALL TILING
Carter & Co. (London) Ltd.
HEATING AND DOMESTIC HOT WATER SERVICES
Earley & Noon Heating Co. Ltd.
IRONMONGERY
A. J. Binns Ltd.
Dryad Metal Works Ltd.
KITCHEN EQUIPMENT
The Falkirk Iron Co. Ltd.
LANDSCAPE GARDENING
William Wood Ltd.
PAINT
Screeton Paintmaker
PRESSED STEEL CILLS
G. A. Harvey & Co. (London) Ltd.
RAILINGS
Clark Hunt & Co. Ltd.
RAINWATER GOODS
Vitreflex Ltd.
SANITARY & PLUMBING SERVICES
W. H. Earley Ltd.
SANITARY FITTINGS
Shanks & Co. Ltd.
SIGNWRITING and NAME PLATES
The Lettering Centre
SLATE CILLS, SHELVES ETC.
E. F. Williams Ltd.
SLATE ROOFS
E. F. Williams Ltd.
STEEL ROLLER SHUTTERS
Haskins
TERRAZZO FLOORS & CILLS
Art Pavements & Decorations Ltd.
VENTILATION GRILLES
British Trane Co. Ltd.
Colt Ventilation Ltd.
WINDOWS—METAL
James Gibbons Ltd.

NEW PREMISES FOR BERRY ESTATES COMPANY

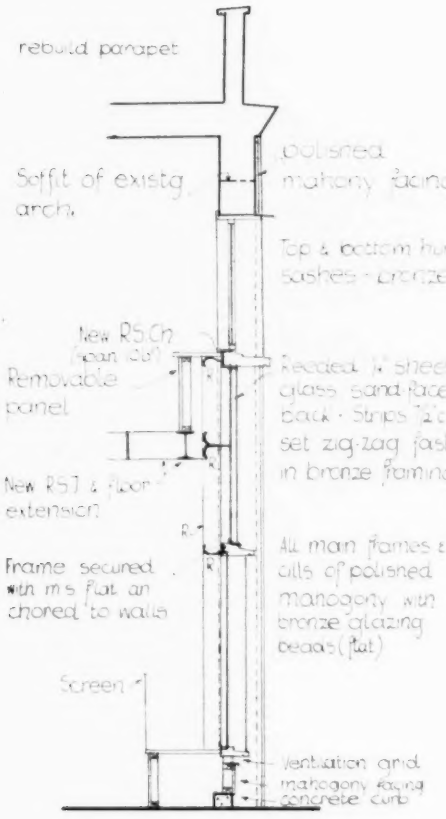




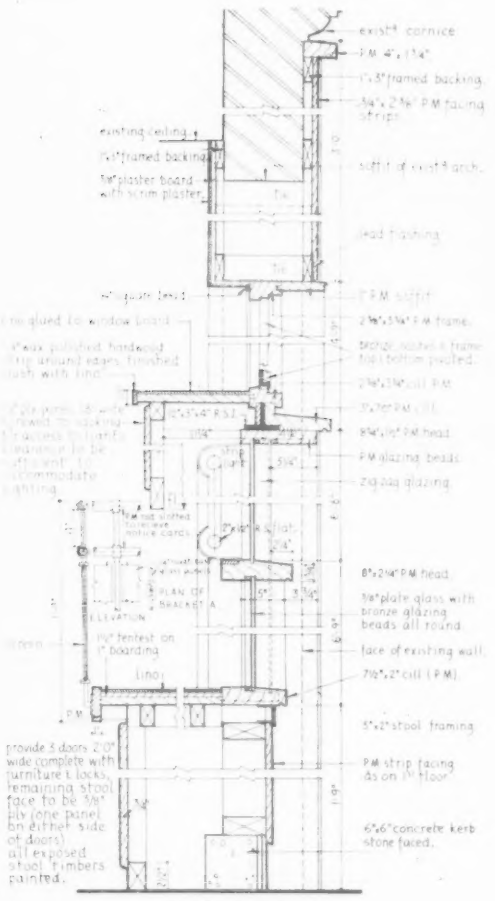
architect
EVA SEGAL

THE new front for Messrs. Berry Estates Company and the London Agency of the Newcastle Upon Tyne Permanent Building Society forms the first stage in the reconstruction of the front portion of a two storied Victorian shopping arcade of no particular merit, designed in the classical style. The shops in this arcade, as so often in similar instances, had changed their appearance as frequently as their occupiers, and most of the Victorian character of the arcade had been supplanted by a nondescript and unrelated design.

The Architect, therefore, was free to follow her own ideas without having to consider the neighbours to the right and left in more than general terms ; the resulting design is an attempt to achieve a more generous scale than elsewhere without disguising the two-storied character of the arcade.



Diagrammatic section showing 1st floor supports.



Details of construction.

Continued from page 71

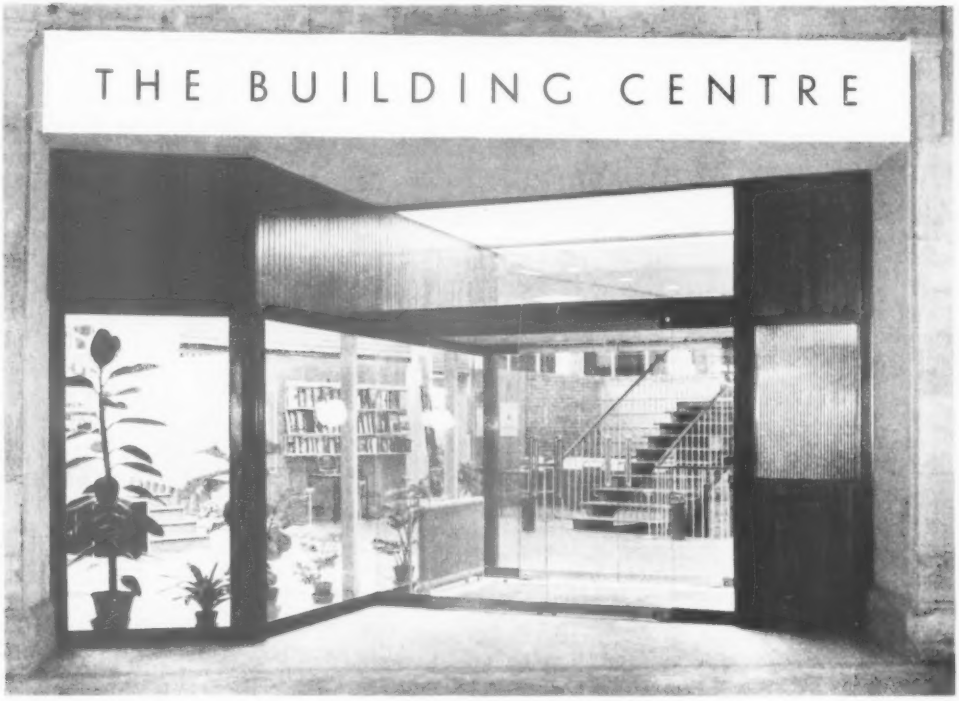
The materials chosen are mahogany framing and strip facing, plate and reeded glass and Bath stone for plinth and coping.

A small amount of cutting away of Victorian detail and facing up was necessary; the structure too, had been affected by settlement, and was out of plumb. The zig-zag glazing on which appears the name of the firm will be lighted at night from behind, as soon as regulations will permit this to be done; no neon lighting is contemplated. Thus, the whole of the lower portion of the front will form at night a lighting panel from which the Roman letters will clearly stand out. In contrast to normal practice the letters were designed not to compete but to fit; hence their restrained size. To achieve this, the understanding and co-operation of the clients was sought and obtained. The letters are fixed proud of the glass.

All mahogany faces are French polished but not tinted; the window on the first floor was made by Messrs. Thompson of bronze and all sections kept down below usual sizes. In spite of this, adequate strength has been obtained and the opening portion in the centre is entirely rigid.

The production was in the hands of Messrs. A. G. Meddings and Co. Ltd., who acted as general contractors and a high standard of craftmanship was obtained.

The interior of the premises will be remodelled at a later date.



—How to use it

TO enable you to obtain the best value from a telephone call or visit to the Building Centre it is as well to know something of the Centre's history, organization and aims. This article is designed to provide that information.

The Building Centre was founded in 1931 with the primary object of providing a place where architects and others interested in building could see and compare building materials and equipment without being bothered by sales talk. It has always been a strict rule that the Centre does not divulge the name of an enquirer to a manufacturer unless expressly asked to do so. The new building in Store Street is the third home of the Centre, which was previously in Bond Street and more recently in Conduit Street. The present site is considered to be more suitable than the other two as it is in the centre of the architects district and has two large schools of architecture and the headquarters of numerous associations dealing with building within half a mile. The history of the Centre is one of constant expansion and the new building provides three times the accommodation that was available at Conduit Street.

The Building Centre is a private non-profit distributing body; it receives no Government subsidy but several Government departments are exhibitors. Any profit made is devoted to extending the Centre's activities in the interests of architecture and building.

The constitution of the Centre was changed in 1950 from a limited liability company to a company limited by guarantee. The governing body of the Centre, now known as the Council, has always acted in an honorary capacity and those serving on it are among the best-known names in architecture, structural engineering and building. The day-to-day running of the Centre is in the hands of the Director, Mr. Frank Yerbury, who was largely responsible for the foundation of the Centre and who was for more than thirty years the Secretary of the Architectural Association. Mr. Yerbury has an administrative and technical staff of about twenty men and women; portraits of some of them can be seen on the next page. These pictures are published to help visitors to identify the people who help them as the Centre tries to provide a personal service and to be an integral part of the building industry.

Apart from the exhibition, which is dealt with later on, the Centre provides a number of other services. Visitors may ask their questions at the counter or in the various special sections or they may telephone or write for information. Simple questions such as correct addresses and the makers of proprietary materials can usually be answered by return of post but questions requiring research sometimes take a few days to answer. Written questions of this type are always acknowledged at once. The Building Centre makes no claim that its staff are specialists in any one branch of the building industry but it does claim to know where the specialists are to be found and to be able to direct enquirers to them. That is why it is usually better to put a really technical enquiry down on paper and send it in. The information service is backed by nearly a thousand information sheets supplied by exhibitors to illustrate their products. These sheets are supplied free to enquirers on demand and their production is discussed later in this article.

The Building Centre provides a valuable place for architectural and building students and arrangements can be made for parties to visit the exhibition either during or outside normal opening hours. A new service, provided for the first time at Store Street, is the sale of Official Publications on building. Orders cannot at present be accepted but it is hoped to include this later on. The new

Executives and Staff of the Building Centre

G. I. Goulden, A.R.I.B.A.
Technical Officer & Deputy Director

F. R. Yerbury, Hon. A.R.I.B.A.,
Director

building contains a lecture theatre for one hundred people. It is hoped that manufacturers will show their films there at regular sessions. The room may be borrowed for a nominal sum by organizations connected with building for lectures and meetings. The Centre has its own 16mm sound film projector. Near the lecture room there is a hall some two thousand square feet in area which is available for the staging of temporary exhibitions such as the showing of competition drawings. Both lecture room and exhibition hall will be available for holding trade receptions.

Administration

The Building Centre depends for its income on the manufacturer who wishes to display his goods and who pays rent for the space which they occupy. The task of letting space to manufacturers is in the hands of the Secretary, who negotiates contracts with manufacturers and allocates space in the exhibition. The Centre publishes notes for the guidance of exhibitors which lay down various rules on such things as the type and maximum size of lettering permitted in the exhibition, and the layout of the standard information sheet. Having agreed to come in the exhibitor must provide drawings of his exhibit for the approval of the Council. Much depends on the co-operation of the exhibitor at this stage and many firms find it a wise policy to commission a qualified exhibition architect or industrial designer to prepare their stands.

External relations with professional and trade bodies and the Press at home and abroad are controlled by the Director.

The Organization of the Technical and Information Service

The whole information service is controlled by the Chief Technical Officer and is based on a records section which collects and collates information. This information is either put into the reference library or passed back to those who answer the questions. The provision of up-to-date information for the use of the technical staff is one of the Centre's biggest problems. To overcome it the staff, between them, read some fifty technical periodicals from all over the world and this, combined with information passed to them from the records section and gleaned from enquirers, provides them with what they want.

The records section helps manufacturers to produce the type of information sheet which the Centre requires. This sheet is based on a British Standard for trade literature and after a difficult start it is now becoming more and more popular with firms who at first were inclined to regard it as being too impersonal. The records section is also responsible for keeping the enquiry counter supplied with literature and this involves writing to each exhibitor from time to time. Apart from its own trade directory of 25,000 names and 50,000 trade names the Centre has a comprehensive reference library of trade directories and a large catalogue library both of which may be consulted by enquirers on request. A number of special lists of manufacturers are maintained and kept up to date. They deal with such subjects as flooring materials, hospital equipment, and concrete and factory-made building units. Enquiries from the trade for agencies overseas are also dealt with by the records section, which in addition to all its other jobs supervises the publications stall.

R. Nott
Exhibition Officer & Secretary

The Technical Section

The technical section obtains information as described above and from exhibitions, trade shows, building centres overseas, foreign travel and other sources. For passing information to enquirers the section is divided up. General information on building materials and equipment is provided centrally at the information counter for enquiries from visitors to the Centre. Telephone enquiries are dealt with in a separate room. The Electrical, Gas and Solid Fuel Appliance sections have their own staffs which answer all questions. It is hoped to extend this practice to the general sections later on.

The Exhibition

As already explained it is the exhibition which provides the income, without it there could be no information service. The comprehensiveness and balance of the exhibition depends not only on the goodwill of manufacturers but also on close liaison between the technical and administrative direction of the Centre.

Reference to the plans on p. 76 will show that the exhibition is divided into sections in a reasonably logical manner. It is not, however, always possible to be logical and agreement has to be reached with the man who calls the tune. The exhibition contains more than four hundred exhibits

P. C. Buckle
In charge of Gas Section

Miss W. Kitchin
Electricity Section

J. C. Whettam
In charge of Records Section

Miss M. Baxter
Records Section

Mrs. V. M. Weller
Telephone Switchboard

A. H. Peachey
Telephone Enquiries and in charge of Information Section

Miss M. Malloy
Secretary to Mr. Yerbury

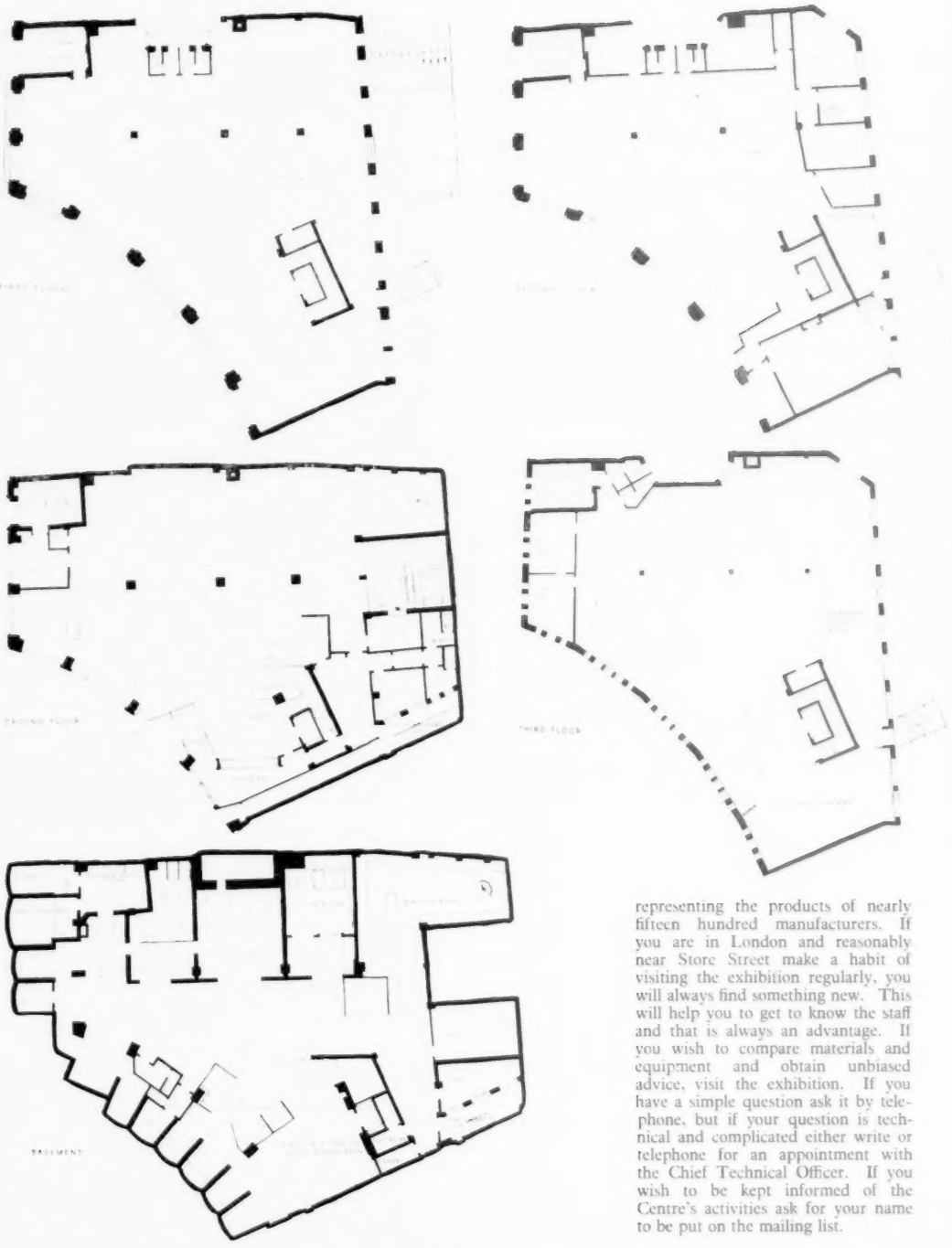
Miss P. Dunne
Secretary to Mr. Goulden

Miss D. Hex
Secretary to Mr. Nott

P. Dunn
General Enquiries

Miss C. P. Andrews
General Enquiries

Miss M. Agnew
General Enquiries

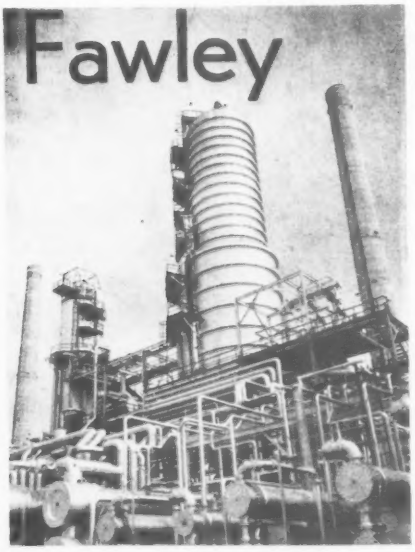


representing the products of nearly fifteen hundred manufacturers. If you are in London and reasonably near Store Street make a habit of visiting the exhibition regularly, you will always find something new. This will help you to get to know the staff and that is always an advantage. If you wish to compare materials and equipment and obtain unbiased advice, visit the exhibition. If you have a simple question ask it by telephone, but if your question is technical and complicated either write or telephone for an appointment with the Chief Technical Officer. If you wish to be kept informed of the Centre's activities ask for your name to be put on the mailing list.

THE BUILDING CENTRE

Refinements at Fawley

HOW A PROBLEM OF MATERIALS WAS SOLVED AT EUROPE'S BIGGEST OIL PLANT



THE FAWLEY REFINERY *represents one of the greatest feats of industrial enterprise since the war. Its huge Administration Building (Architects: Messrs. Lanchester & Lodge) was floored almost exclusively with Accotile.*

On the left is shown a typical Accotile floor, in the lecture and conference room. A great variety of designs may be achieved with Accotile.

THE SPEED with which the Esso Company's new refinery at Fawley was completed has in itself been a notable feature of this great enterprise. But it has involved some "tall orders" for architects and builders; for instance, in order to meet their deadline, Messrs. Lanchester and Lodge, the architects, were faced with the task of completing the entire Administration Building, from start to finish, *within a year*.

This meant that only readily available materials could be specified; at the same time, the assignment was far too important to allow any compromise where quality was concerned.

Choosing a Floor

One problem of great importance was, of course, flooring. A material had to be found which would come up to exacting requirements of design and durability and yet be readily available.

The material chosen was Accotile, the asphalt tile flooring made by the Armstrong Cork Company. Practically the whole of the Administration Building has been floored with Accotile, as well as the canteen, medical block, and laboratory administration offices. In all, rather over seven thousand square yards of Accotile were laid — chiefly by Armstrong's own Contracts Department. Accotile was the only asphalt tile used.

Qualities of Accotile

Accotile provides an extremely durable floor (floors laid in this country in 1938 and 1939 are still giving excellent service) which has a strong resistance to alkaline moisture. Hence it can be laid without the necessity of a damp-course, although it is not a damp-course itself.

There are almost unlimited possibilities of design for Accotile and it can be laid to harmonize with existing decorations. Inconvenience is cut down to a minimum, since Accotile can be used as soon as it is laid.

Standard Accotile is easily cleaned by washing with water, and is resistant to stains and most dilute acids. Where conditions make it advisable, a special Grease Resisting Accotile is recommended.

Accotile is available in two sizes of tile (12" x 12" and 9" x 9"); in two thicknesses (⅛" and 3/16"); and in 19 different colours. In addition, Accotile Coved Skirting, supplied in 36" lengths, prevents dust collecting in corners and obviates the need for timber.

FOR FURTHER INFORMATION

about Accotile, architects and builders are invited to write or telephone to

ARMSTRONG CORK COMPANY LIMITED

London Office: Flooring Department, Bush House, Aldwych, W.C.2. *Tel.: Chancery 6281*

Birmingham Office: Westminster Chambers, 93a Corporation Street. *Tel.: Central 1271*

Glasgow Office: 5 Oswald Street, C.1. *Tel.: Central 5703*

Dublin Office: 54 Middle Abbey Street. *Tel.: Dublin 54901*

In addition to Armstrong's own service, forty-two approved contractors with branches all over the country handle Accotile.

ACCOTILE*

"The low-cost floor with the luxury look"

*British Registered Trade Mark 456,643. Armstrong Cork Company Ltd., Registered Users.

POINTS FROM PAPERS

THE INFLUENCE OF DESIGN ON PRODUCTIVITY

Extracts from a paper read by L. W. ELLIOTT, A.M.I.C.E., A.R.I.B.A. at the R.I.B.A. on December 18

DURING 1949 representatives of the building industry visited the United States to report on the organization, constructional techniques and industrial outlook of the building industry there and to draw comparisons between American and British practice. A very fine report was produced and I hope that we have all digested it and applied where possible the recommendations made. I was extremely fortunate in being able to visit the United States recently and was particularly interested in the extent to which the actual design of buildings affected productivity; I felt that however much efficiency one had on the constructional side, the largest single factor contributing to efficiency was design. The average American architect is imbued with the highly competitive spirit of the country, and he knows that he is a member of a team charged with producing an efficient building. His success is not purely mercenary; it consists also of a sense of collaborative achievement—of knowing that everyone is satisfied, including the actual operatives on the job.

Apart from the architect there is another factor influencing productivity in the States, and that is the operative. As one architect put it to me, "Labour is expensive, partly because of high wages and also because it is a variable factor, so that the aim is to use as little as possible and to use it efficiently. It is much more reliable to use a machine, and, if labour is used, to make it as foolproof as possible. The use of bricklayers on straight runs, plasterers on clear areas and carpenters on repetitive work is essential for speed."

Every project I saw was extremely well thought out constructionally, and one was never aware of any complicated detailing which was likely to delay progress. Trades were never intermingled—each man could start on his job knowing that he would have uninterrupted progress, which as we all know is not the case in this country. This principle, however, is the key to speedy building—one cannot hope to organize a building job using differing methods and materials to any great extent, because that does not permit labour or plant to be used efficiently

One great advantage in America was that even on the majority of important projects the contractor was consulted at the beginning, and in fact became a member of the team responsible for the execution of the building. I often came across cases where the architects had designed a system of construction which was not in any sense orthodox. In some cases these jobs were sent out to limited tender, and invariably prices were far too high in the architects' estimation. It was only when a contractor was approached directly, and the whole scheme was explained to him and advantages or savings in construction time were argued out, that the job went on at all; and in most cases costs were much lower than when tenders were called for. The majority of jobs where this occurred consisted of those where new systems of cladding, or—for example— the use of welding was called for. In some congested sites such as New York it was absolutely essential that the contractor be appointed at the commencement of the design, because it was due to his foresight and knowledge that the whole sequence of operations was planned so that the minimum obstruction to traffic or the storing of materials on the site was overcome. I am afraid that in this country we are never going to build quickly unless we overcome this problem of joining up with the contractor at the sketch plan stage of the job. It is all very well that an architect sets out an interesting system if it is eventually described in the bill of quantities in a quantitative way. Such items in a bill of quantities as "so many yards of concrete floor" or "so many feet super of brickwork" are not always related to the actual way in which the items are to be built, and the contractor cannot tell very often whether he can use plant or some movable system of formwork.

If it is difficult for contractors to be consulted in this country then we must try to find a way to make them realize how the job can be organized. This might be done by the architect and quantity surveyor in the following way:—

The architect can prepare diagrammatic erection drawings, apart from the normal contract drawings. This has to be done on many occasions, especially where prefabricated or standardized systems of construction are used. This will enable the architect to plan the construction and to see that sections of the work can be carried through without too many trades being dependent on one another. Perhaps these erection drawings ought to be made at sketch plan stage, as this will enable working drawings to be done with the erection problem always in mind. These erection drawings should be sent to the contractor at the tendering stage, together with enough working drawings and a full descriptive specification to enable him to price the job, bearing in mind the methods of erection. Each contractor should then be required to submit with his price a report on the actual way he proposes to carry out the work. This would give the contractor a much greater chance to use his ingenuity and also to plan the operations more precisely.

The quantity surveyor should also be consulted on matters more directly concerned with the economy of building. It is my view that the present bill of quantities should be modified, especially since there is now a greater tendency to use specialist sub-contractors. The actual P.C. and provisional sums now seem to be about half the value of the job and are usually dealt with by the architect, so that the quantity surveyor is only responsible for the work actually carried out by labour on the site and measured in accordance with the standard method of measurement. The contractor merely translates these measurements into costs in a fairly uniform way by an estimator on his staff. This estimator is not directly concerned with possible methods of building but is only familiar with current prices of materials, wages and the contractor's overheads and profit. The American method relies on the contractor taking off his own quantities from drawings and specifications, and has much to commend it, because the contractor's skill, knowledge and organizing ability are brought fully into play.

I should not like to see the bill of quantities disappear in this country, but it can be made a more realistic document and the quantity surveyor should be used much more and consulted on methods and costs of carrying out the work. As the vast amount of work to-day is concentrated in the hands of local authorities and is concerned with housing and schools, it should be possible to appoint contractors for programmes of construction to enable work to be planned over a period of several years and to build up balanced labour teams, provide adequate plant facilities and to progress the supply of materials and components. Much delay is being caused by specialist sub-contractors not having their orders placed until the main contract is signed, and one is constantly seeing a job started and then held up for windows or steelwork.

It is also becoming important to use alternative methods of construction even if the cost appears higher than traditional work, because the longer a job takes the more prices are increased, especially now that the trend is for costs both in labour and material to be constantly rising. Perhaps still greater specialization is the answer, so that the contractor is left free to progress the job and supervise the subcontractors. A sub-contractor carrying out excavation work only would have adequate plant and be interested in carrying out this work quickly, as he would not be able to use his men on the work in any other sphere. Again, a firm carrying out reinforced concrete would be in a better position to obtain uniformity in workmanship and to use the best and most efficient plant, including ready-mixed concrete.

There was an interesting competition held recently in France where the architect was required to select a contractor and to submit a complete scheme for a major project. The price submitted represented the tender price for the winning scheme. This method did encourage the architect and contractor to select the best methods to ensure an efficient job.

Education

In the course of my investigations I examined the educational system of American architects, and visited a wide range of schools and talked with the students and teaching staff. At Harvard great emphasis is placed on the study of what they call humanities allied to the graduate school of design under Walter Gropius. I felt that the system here was much like our Architectural Association School and provided a liberal education. Also, in Cambridge near Boston, was the Massa-

chusetts Institute of Technology, where more emphasis was placed on the techniques of building; although since the visit of a well-known contemporary European architect who exclaimed that he could not teach here because the students did not know of the Parthenon more cultural studies are undertaken. Basically, however, the student does receive an education which enables him to become well versed in all the technical side of building —structure, heating, ventilating; at the same time a well-known practising architect with contemporary feeling is in charge of the department.

One of the great points of these institutes of technology was the contact and training with other students in departments connected with all branches of building and mechanical engineering. One important feature of this particular school was the holding of what they call "course conferences" devoted to particular aspects of building. These conferences were continued for perhaps a week, with informal lunches and cocktails, and what distinguished them was that really top people freely gave their time, not in a patronizing manner but on an equal footing with the students. A job was there to be done, and everyone got to grips with the problem. Of course, the students did most most of the basic research beforehand as part of their studies.

I also visited the Illinois Institute at Chicago, where the architectural department was under Mies van der Rohe. The teaching there however is quite different, with studies much more fundamental. The student is primarily equipped with the tools of his profession—he must be a painstaking draughtsman, he must be able to arrange simple elements in the most pleasing manner, and even after several years of training he only arrives at a stage where he is able to design a simple building before making studies of larger units and their arrangement in a community. This training is highly precise and disciplined, and is based on the theory that if the student can solve basic problems he has a much more firm foundation on which to design and experiment with new ideas.

At the Institute of Design in Chicago the whole system seemed to be reversed, and the student was encouraged from the beginning to experiment with new forms and materials. This school was primarily to create designers rather than constructors, and is a development of the Bauhaus in Germany before the war.

I felt, on the whole, that the training of an architect in America was rather better than in this country. The student seemed from his earliest studies to be taught how to build efficiently. In many cases, courses in structural engineering and construction were taken in those departments by the architectural student, and valuable experience was gained by this. Another strong feature was that case studies were made on specific subjects, such as the relationship between cost and height, the amounts of steel required for various column grids, and whether columns were used in a high or low building; analysis of horizontal framing, the effect of structure on elevations; the effect on economy of stiff joints or pin joints and costs of various systems were also made and studied. This sort of study is to my mind a basic necessity, but I should think that very few schools can undertake this work; partly because there is no textbook on the subject of the economics of structure, and also because the work involved is enormous. At Harvard this basic research was usually undertaken as a preliminary to the design of a major project, and students worked in teams and collaborated with other departments to gain specialized assistance. The architectural student to-day has to take into account the impact of industrialization and explore new relationships dictated by social and scientific progress. The appreciation of methods is more important than accepting ready-made formulæ and individual experience will enable an independent conception of basic facts.

The shape and size of a building unit has an important bearing on economy—not only on construction costs, but also on the operating and maintenance cost. Generally speaking, the smaller the unit the more costly it is. For example, the detached house is more costly than the terraced house for the same amount of cubic content. In the case of schools, the immediate post-war type consisting of loosely connected classrooms cannot be built very easily within the limits of cost allowed; and schools are now being built with the circulation space cut to the minimum within a tight plan.

It is all a question of maximum enclosure for the minimum of external walling. This would normally mean less area available for windows and natural ventilation, but there are many ways by which this problem can be overcome; for instance, by roof lights and mechanical services.

In the United States the impact of mechanical services has had a tremendous effect on planning. Buildings are mechanically equipped to a much higher degree than here, and the proportion of building costs devoted to services is so high that ways have been investigated to see whether savings in the structure can be made. In the case of elevators, complete reliance is placed on them, and only an insignificant fire-escape staircase is normally provided in offices and blocks of flats. Such a staircase does not affect the structure in any way as it is not an integral part of the framework but is normally a standard pressed-metal, self-supporting staircase, passing through a void in the slab.

The high standard of American heating has resulted in savings in planning, especially in the field of housing. The open plan with its saving of corridors, entrance halls and circulation space can only be realized with an even temperature throughout the house or apartment. It saves up to 20 per cent of the plan area. Although by our standards the average American house is small the effect is not noticeable.

The latest office buildings are usually mechanically ventilated, and since the services are so complex and have to be accessible the suspended ceiling is chiefly used. Lighting is usually recessed into this, and with the plumbing, heating and ventilation the thickness between the ceiling and structural floor is used to the full. Much development has taken place on suspended-ceilings systems, and most architects considered them a saving factor, especially when one considered the cost of plastering and decorating floor slabs and beams. Apart from the perforated acoustic tile, plaster or asbestos slabs were used, and there were innumerable systems of eggcrate louvres with fluorescent lighting behind them. Most suspended ceilings do not need decoration and were not usually fixed until the last moment, so that adjustments could be made to the services after testing. In fact, in most cases office space was let to tenants completely bare of ceilings or partitions, and they usually employed their own architect to equip the office.

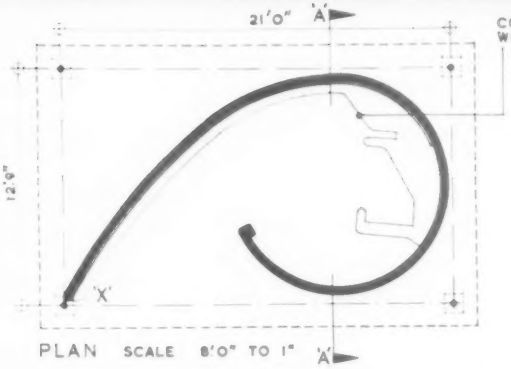
The erection of industrial buildings in America is probably the finest example of collaboration between the specialists. The average American factory is built as part of the tooling of the industry and it is not usually intended that its life should be greater than 20 years, as it is considered that industrial processes will have changed radically by the end of that time. Most industrial buildings are carried out either by firms of engineer-contractors or by a comprehensive professional organization such as the Albert Kahn office in Detroit. This firm probably carries out the greater part of all industrial building in America. Their office organization is tremendous and a job is sent through the office in a most comprehensive manner. The work usually starts with the production engineers, who discuss with the user the correct sequence of production. This is then carried on to the stage where the necessary factory layout is considered in conjunction with the mechanical engineers responsible for the design of plant and the necessary power. The structural engineers are then called in, and complete designs are made to provide an enclosure for the whole building. Lastly, the architect is asked to design the administration buildings and to advise on the treatment of industrial buildings generally. The efficiency of American industrial power is the answer to the way these great factories are designed.

The Latest Developments

There has recently been much development in America to free tall buildings from the restriction of the external frame. The early buildings were designed in the traditional way, so that columns were thickened down the building until they reached the ground. This was satisfactory when the amount of window was controlled to create standard sizes on each floor but meant that although windows on the lower floors practically filled the spaces between the columns, much infilling of brick or stone was needed on the upper floors to create uniformity. This problem was overcome in later years by freeing the external wall from the structure by setting back the face of the columns. This method was carried on for some considerable time until it was realized that the arrangement of furniture or fittings around the window area was difficult, owing to the obstruction of columns.

The latest development appears to be to free the outer wall structure entirely from the main structure, so that the building consists of an inner core of structural columns and beams and the external column grid is broken down to provide a structure which will make the external wall self-supporting in a completely standardized way. It is almost like a cage enclosing the structure of the building. This development has meant that standardized spandrils and windows made either in aluminium or stainless steel can be used. They can be made in a factory or otherwise off the site, and use of brickwork or other *in situ* materials is completely avoided. The United Nations building is a very good example of this, and also the latest tall apartment blocks designed by Mies van der Rohe.

As I mentioned earlier, the American architect designs his buildings to use as little site labour as possible. He achieves this not only by using dry methods of construction but also by not caring about the amount of material used in the job. For example, in the face of reinforced



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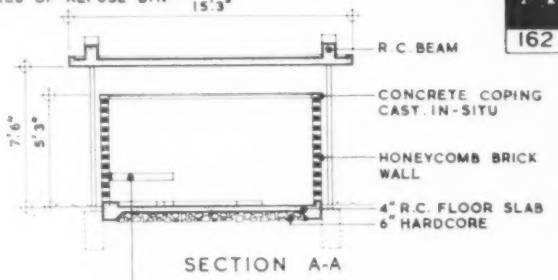

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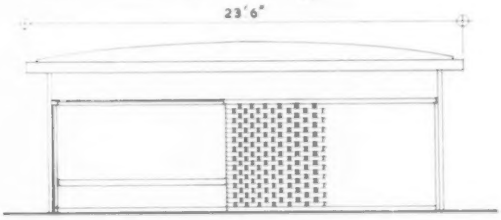
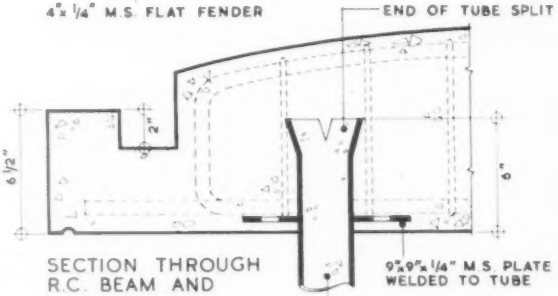
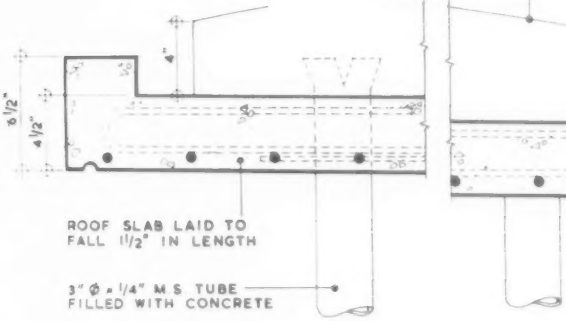
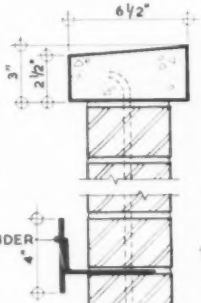


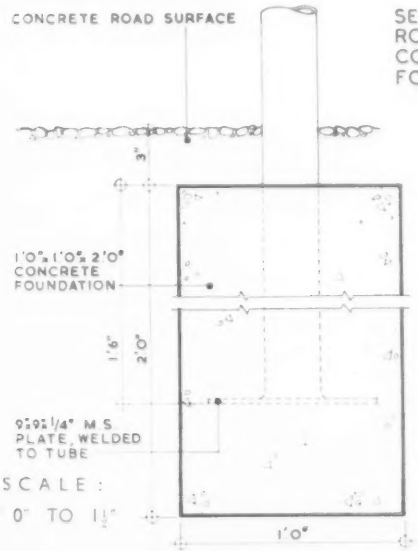
FRONT ELEVATION



SECTION THROUGH R.C. BEAM AND CORNER POST

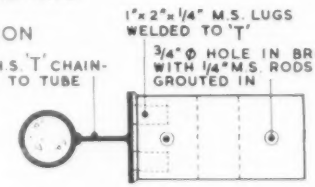




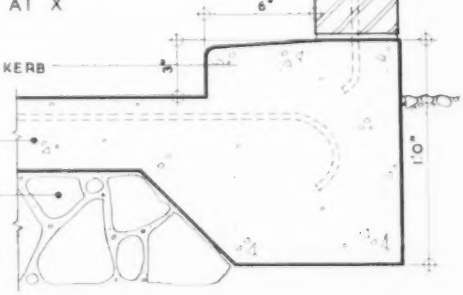


SCALE :
1 0" TO 1"

SECTION THROUGH ROOF SLAB AND COLUMN FOUNDATION



PLAN AT 'X'



'A'-'A' SECTION THROUGH HONEYCOMB WALL

PIMLICO HOUSING SCHEME: REFUSE SHELTERS

ARCHITECTS: POWELL & MOYA

concrete, buildings are often erected up to 15 storeys in height and not one single variation is made in the column sizes the whole way up the building. In other words, the maximum loads which occur at ground floor level are used to determine the economic section of concrete. This section is then carried the full height of the building and only the reinforcement is varied, although additional variation is provided by adjusting the concrete mixes so as to have a strong mix at the bottom and a weaker mix at the top.

Furthermore all beams are standardized from floor to floor in the same way. This seems to me a logical thing to do, as the saving in form work is enormous. It also enables the shuttering to be made off the site, and since it is completely standardized many uses can be made of it. Once a piece of shuttering is designed for a great number of uses then it is possible to obtain absolutely smooth form work. This has been exploited to cut down plastering as much as possible, although this development is restricted to a certain extent because of the plasterers' union not allowing walls to be plastered and ceilings unplastered. This restriction has meant that plastering is often avoided completely, although an exception is made to the plastering rule when building working-class blocks of flats.

This waste of actual material, whilst resulting in a saving of time, might not be thought very highly of in this country, where materials are scarce. Labour, of course, is cheaper here, and the material costs tend to outweigh the cost of labour; but on the other hand we are short of building workers, and really we have the same problem in a different way.

The Americans, of course, do not consider the question of greater amounts of materials being used as important, and this has resulted in much more economic planning and construction. This question of standardizing the sizes of members and simplifying the shuttering has led to the widespread adoption of beamless floors, and I saw many buildings where the floor slab, although probably over-thick in some parts, was designed to resist the maximum moments around the column heads. The thickness generally averaged about 10in. An occasional refinement was the reduction of the weight of this concrete membrane, where bending moments were small by the insertion of clay tiles, but this does not invalidate the general principle of creating a flush ceiling over the whole of the job. This has meant that the heights of partitions are completely standard and can be determined by the module sizes now prominent in the American building industry.

The savings in labour and construction time are enormous, and I should like to see this principle being applied to more jobs in this country.

Where it was necessary to provide floor beams, these were usually designed as a thickening of various areas of floor. For example, the width of a beam would extend over the whole of a corridor, and from a structural point of view this would appear to be uneconomic, as we are always taught that to create depth in a beam is better than to have width. If the problem is examined further, however, it can be shown that the floor slab spanning between these wide beams is reduced. One American engineer has produced figures to show that there are savings.

In the case of all frame buildings, fixings were either cast into the columns for carrying the external wall or cantilevered beams were provided at the top to enable cradles to be used, and bricklayers worked from these on the exterior of the building. I was never aware of any building being shrouded in steel scaffolding, and I am quite sure that savings in cost were great.

In the case of steel-framed buildings, the same question of using more material and less labour applied. The American steel industry manufactures a far greater range of sections than we have here, and there were many more heavier types of beams, so that at the base of a very high building such as the United Nations building no built-up plated stanchions were seen. At the other end of the scale, for light-weight buildings—such as schools—steel joists were rolled, which were deeper but of thinner sections than we are used to here. The beam arrangements of steel frame building were such that many more secondary beams were used, and the spanning of the floor slab between these beams was usually no greater than 8ft. This smaller span enabled light-weight cinder concrete to be used, lightly reinforced with a steel mesh. This meant that there was much less actual reinforced concrete work being used in a steel-framed building. In many cases, reinforcement was avoided altogether by using corrugated or ribbed steel floor decking, and heating coils were placed in actual contact to create a large area of radiant surface.

This question of speed has tended to retard the development of new techniques such as welding, shell concrete and prestressed concrete, though I always found architects aware of these new techniques and often they tried to introduce them. Cost, however, was the determining factor, and most of these systems necessitated more labour being used on the site. In the case of one particular job the architect was designing a large dome about 250ft in diameter and was hoping to use a thin concrete shell, prestressed at the edges to resist the thrust. The whole job was costed, but it was much cheaper to obtain the same effect as this rather pure form of construction by using a simple system of radial steel beams and covering this structure with a false ceiling. I know the architect was disappointed, but he could not alter the situation; especially since he knew that the building would be erected very quickly with dry methods of construction and the general effect on completion was the same.

There is a growing tendency in America for well-known architectural designers to work in association with other professional firms. In America there are many large offices which are organized to provide comprehensive services, and include on their staff structural, mechanical and sanitary engineers. These firms are extremely efficient, and most of their work is concerned with building large industrial plants and commercial undertakings where architectural design has not been quite so important. When these firms work in association with leading designers they take over completely after the design is produced and carry through working drawings and advise the contractor. This leaves the designer free to have a smaller office where he can personally supervise all the work, and this has resulted in a relatively few contemporary architects carrying out a lot of work in America and being able to exert a very strong influence.

In conclusion I should like to set out the following points, which should be borne in mind when considering how a building can be designed more economically.

In the first place it is essential that there should be more basic research into the economics of various structural systems and the standardization of constructional details. This kind of research should be carried out by the architect in association with other professional specialists before any major project is commenced. Planning should take into account the problems of relating space to cost and enclosing the building with as little external walling as possible. Furthermore, there is no doubt that planning should be confined to some regular system, with dimensional standardization wherever possible, in order to use more standard components; and plans should give clear and simple areas of erected material so as not to have the operative working in a haphazard way. It is essential to segregate varying cubic contents into definite sections of the building so that no effort is wasted by carrying smaller voids above larger voids, and to devise means whereby all external scaffolding is avoided.

Greater attention should be given to the use of mechanical services, which can in certain circumstances reduce planning difficulties and save wasteful areas where normal natural ventilation or lighting is required. All trades should be segregated in such a way that they are able to work independently of one another. This means that architects must see more in terms of how a building is to be erected rather than of assembling differing materials in a traditional way. Buildings must be more streamlined, and consideration be given to using materials, especially those which are plentiful, with regard to ease of construction. Smooth vertical walls and floors without any projections from beams or columns can save costs enormously.

Consideration should be given to the optimum sizes of structural members. Columns, beams and floors should be standardized as much as possible, even though there may be variations of span or loading. There must be more consultation with contractors or constructional men in the early stages, so that means can be found of using plant economically to avoid site labour as much as possible.

Lastly, the architect is the vital factor as far as producing economical buildings is concerned; but he must have greater collaboration with client, specialists and contractor before results can be achieved.

CWMBRAN NEW TOWN

Master Plan

CWMBRAN is an Urban District in Monmouthshire, 5 miles north of Newport. It lies in what is known as the Eastern Valley. The County of Monmouth contains the three industrial valleys in the west and an agricultural area in the east. Few appreciate that a portion of the famous Wye Valley lies within this county.

Before the industrial revolution the three western valleys were reputed to have scenic beauty equal to the Wye Valley. Now two are mining valleys with all the drabness associated with long miners' rows, pits and slag tips.

(Continued on page 80)

The third or Eastern Valley is wider, and whilst it is not a mining valley, it attracted heavy industries which in turn brought in their wake housing of a typical industrial standard.

During the last war a Royal Ordnance factory was built at Glascoed, to the east of Cwmbran and the British Nylon Spinners factory, on the site of the hostels which were erected to house the workers for Glascoed factory.

Bearing these factors in mind, the obvious choice for a New Town, if one was to be built in Monmouthshire, was the Cwmbran area. It is the nearest area to the mining valleys which lends itself to expansion. In addition, by its existing pattern—if it can be called a pattern—it called for the assistance of an outside agency to fuse the scattered and unplanned development into a unified whole.

In November, 1949, the Minister of Town and Country Planning designated an area of 3,160 acres for a New Town with a future population of 35,000. He set the planners a complex but interesting problem. A problem that, if solved successfully, will set an example for future development in the industrial and mining areas of South Wales and Monmouthshire.

Early in 1950, Messrs. Minoprio & Spencely F/F.R.I.B.A., A/A.M.T.P.I., and P. W. Macfarlane, F.R.I.C.S., M.T.P.I., were engaged to prepare the Master Plan from which the detailed plans of the individual areas could be produced.

Their plan has now been produced and submitted to the Minister for approval. The plan published for circulation comprises a report and outline plan. Both documents are well prepared from the aspect of public consumption; whilst the report is a comprehensive document, it can be easily read and understood, which is not always the case with planning reports. The plan likewise is clear and simply drawn, presumably for the same reason.

The plan proposes seven residential areas varying in ultimate populations from 3,600 to 6,600, each with its own neighbourhood centre. Where possible, the housing has been sited on the higher ground away from the valley of the Afon-lwyd river, industrial belt and two railways which follow this valley.

One wonders whether or not the zoning of land east of the main trunk road in the Croes-y-ceiliog (south) neighbourhood was wise. It might be argued that there is a considerable amount of scattered development here now and therefore this is perpetuating what was in the Monmouthshire County Council's pre-war planning proposals; but when there has been so much alternative provision made by the introduction of the New Town, it might have been better left in agricultural use, and so confined new development all to the west of the trunk road.

The residential density is now given as 31.7 persons per acre net. Originally, I believe, a figure of 35 persons per acre was considered. Even at 31.7 it is quite a high density, bearing in mind that much of the development will comprise the infilling of sites and difficult contours. It should, however, give a compactness to the town which at the moment is over-emphasized in long industrial rows, or the reverse in scattered and unrelated development.

It is pleasing to note that great care has been given to the linking of the housing areas with the town centre by means of open spaces. There are considerable opportunities for landscape treatment which, with careful handling, should make otherwise drab areas into pleasing amenity features. It is to be hoped a landscape architect will be commissioned, if one has not already been so, to assist in this work.

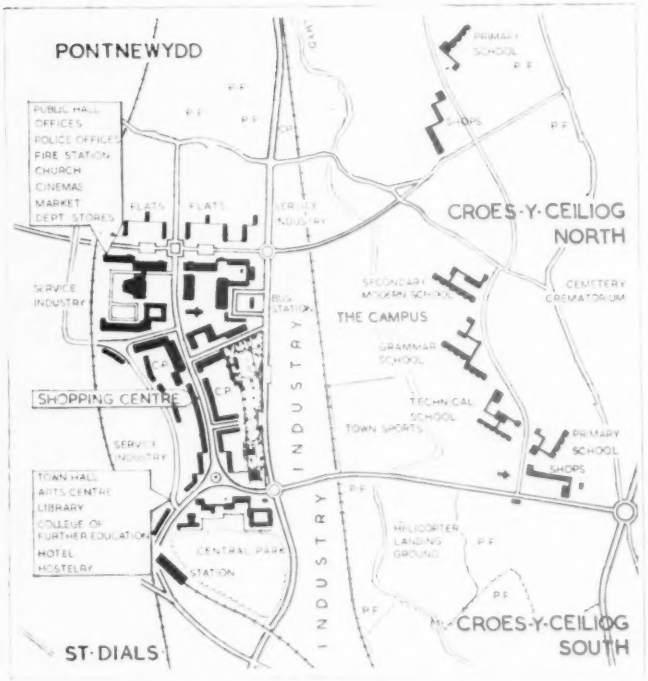
Provision is made for 15 nursery schools; 7 infant junior schools, one to each neighbourhood; 3 secondary modern schools to serve the three neighbourhoods on the perimeter; and a secondary modern grammar and technical school on an educational campus adjacent to the town centre.

It is amazing to note that there is not to be a central station in the New Town. At the moment there are four small stations, built for quite different conditions and by no means equipped for present-day needs. The reasons given for sticking to these four stations do not appear to show foresight of the position of railways within a New Town.

The town, with the exception of part of Croes-y-ceiliog south, lies west of the new line for the Newport-Abergavenny trunk road. Four connecting links from this road into the town are provided. The levels, in addition to the railway lines, make the siting of new roads a difficult and expensive business. The planners, however, have produced a road pattern which should make for easier access than is provided at present. The proposals around Cwmbran junction might, however, need further thought.

It is to be hoped that this project does not suffer because of financial reasons, for the idea of a New Town in this area will provide new hope to the people, many of whom must have considered that amenities were being provided in various parts of the country but being denied them. It should also assist the industrialists who have already established themselves in the area.

M. E. T.



A possible layout for Cwmbran New Town. This diagram is reproduced from the plan, which is available price 10 6 from Cwmbran Development Corporation, Victoria Street, Cwmbran, Mon.

News of the BUILDING INDUSTRY

THE MINISTER OF HOUSING AND LOCAL GOVERNMENT, Mr. Harold Macmillan, M.P., said on January 9 "there have been some fundamental errors made by the central Government in the housing field. The programme has been too rigid, too academic, too pedantically and artificially planned. It has been too rigid because it has not given sufficient flexibility to the local housing committees; who know, or ought to know, their own areas better than anyone else. They are, in my opinion, at any rate, the best judges of local needs. I have, therefore, as my first step, restored a far greater degree of independence and individual judgment to the housing authorities. Instead of the rigid control of the number of houses which should be built to private account (whether for sale or letting) I have given them a much wider degree of flexibility. I have substituted for the rate to give up to 1 in 5 for private licences up to 1 in 2; that is to say, that if they wish to do so, of the total houses they have to dispose of they can give half to private developers."

Mr. Macmillan stated that there would be no artificial restrictions. As many houses will be built as can be put into production having regard to the materials and labour that can be provided.

*

THE SECRETARY OF STATE FOR SCOTLAND, the Rt. Hon. James Stuart, P.C., M.V.O., M.C., M.P., opened Chance Brothers' new fluorescent tubing plant at Firhill, Glasgow, on January 16.

This is a quarter of a million pound dollar-saving and dollar-earning project, successfully achieved through technical co-operation between skilled glassworkers in America and the United Kingdom. Up to now a great deal of glass tubing for fluorescent lamps has had to be imported from the United States because of shortage of production capacity here. The output from Chance Brothers' new plant will not only fill this gap, but feed export markets as well.

The new project provides jobs for skilled workers in a plant which is the only one of its kind in the United Kingdom. It is believed to be the most up-to-date in Europe, and as advanced as the best in America.

*

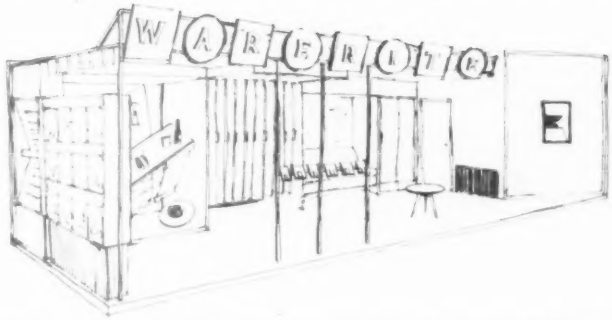
THE COUNCIL OF THE ROYAL SANITARY INSTITUTE has announced particulars of the prize essay open competitions for 1952. Three prizes are being offered as follows:

The Henry Saxon Snell Prize of 50 guineas for an essay on "The Selection, Utilization and Hygienic Operation of Equipment for Cleansing Utensils, Crockery, etc., in Hotels, Restaurants and Canteens."

The John Edward Worth Prize of £40 for an essay on "The Design, Construction and Fitting of Pre-fabricated Units for Cold and Hot Water Supplies and Waste Disposal in Housing Schemes."

The John S. Owens Prize of £15 for an essay on "The Ventilation of Buildings used for Industrial Processes giving rise to Noxious or Unpleasant Dusts and Fumes, and the Prevention of Atmospheric Pollution by such Dusts and Fumes."

Intending competitors should apply to the Royal Sanitary Institute, 90 Buckingham Palace Road, London, S.W.1, for a copy of the general conditions. Entries must be received by December 31, 1952.



The Warerite Laminated Plastics stand at the Catering Exhibition which opens at Olympia on January 23. The stand shows Warerite surface finishes for bar tops, table tops, splash backs, etc. Warerite resists staining from burns, hot plates and pots, etc., and in addition adds colour to decoration schemes.

*

THE LE BAS TUBE COMPANY LIMITED announce that on and from Monday, January 21, their Head Office will be at City Wall House, 129, Finsbury Pavement, London, E.C.2. Their telephone number will be MONarch 8822 (10 lines).

*

MR. ALLAN C. WATES, youngest of the three brother directors of Wates, Limited, the London Building Contractors, is again to take part in the Monte Carlo Motor Rally, which starts from Glasgow on January 22. Mr. Wates will be driving a Humber Hawk car. Last year he was a member of the Humber official team which won two team prizes in the rally. Leaving Glasgow, cars have to travel 2,200 miles via France, Belgium, Holland, and then back again to France into the Principality of Monaco. It is a non-stop run, each car carrying three drivers, one of whom actually drives, one acting as navigator and the third resting to take over from the driver. It is estimated that the journey will be done in three days.

CORRECTION

It was stated in the *Architect and Building News* of January 3 that a course of lectures on the Corrosion of Metals was to be held at the Northern Polytechnic. This should have read Northampton Polytechnic, St. John Street, E.C.1. Any inconvenience caused by this error is regretted.

OFFICE BOOKSHELF

Concrete

Improvement in the use of concrete can make a considerable contribution to economy in building. The necessary information in simple terms is not as generally available as is desirable and therefore "The Design and Planning of High Quality Concrete" by D. A. Stewart (E. & F. H. Spon, Ltd., London, price 25s) is a welcome contribution. The book opens with a brief historical review of the material and this is followed by a chapter on the anatomy of concrete. The subject of workability is dealt with in detail both in regard to theory and experiment. There is a very helpful chapter on batching and mixing, containing information which should be followed carefully by all concrete users. Full and detailed explanations of placing and compacting by vibration are discussed.

The most useful part of the volume relates to the theory and method of mix design in order to achieve high-grade and economical production of concrete. The chapter headed "Contractor's problems in vibrating placing" also gives valuable guidance.

The final chapter is devoted to a discussion of a method of specifying concrete and stresses the need for more adequate specifications if good concrete is to be expected.

This book is written in a manner easy to follow by those who have only a limited knowledge of the subject; it is clearly and adequately illustrated with diagrams and photographs. The price for so slim a publication may, however, be considered too much by some would-be purchasers.

Insulation

"Building Insulation" by P. D. Close (American Technical Society distributed by The Technical Press, Ltd., Kingston Hill, Surrey, price 40s.) deals at length and in great detail with the principles and application of heat and sound insulation. This, the fourth edition, has been greatly expanded and incorporates much recent data and improved techniques. The materials and building methods discussed and profusely illustrated use trade names and building terms unusual in this country but the equivalent products and methods adopted here are fairly generally known.

The volume contains much practical information worth study by all who build; it includes notes on the economics of insulation, the avoidance of troubles such as condensation in addition to a very full discussion of the theory of insulation.

The chapters on machinery isolation and the insulation of farm buildings are particularly useful as little information on these subjects seems to be available in this country.

GOOD, BAD OR INDIFFERENT ?

No. 62.—By A. FOREMAN

Metal Door Frames

HAVING been a joiner for much of my building trade life I naturally found it very difficult to bring myself to like pressed steel door frames. I admit, even now, if I have any choice I still incline towards timber frames and linings for various reasons; in recent years, however, due to the timber shortage and the need to use an allocation to its best advantage, I have been using steel door frames in order to release the timber thus saved for positions in which it is of greater direct advantage to the householder, such as in fittings and cupboards. The amount of timber saved by the use of steel door frames is not very large, being in the region of 15 cu. ft. on an average housing scheme semi-detached house, but even this amount has quite often been extremely valuable for other purposes.

I do not attach a great deal of importance to some of the claims made for metal door frames; for example, the fact that they are supplied complete and ready to build-in is very little different from a wood frame or even linings, although these need to have their achitraves fixed at a later date, but in the opinion of most plasterers this is an advantage rather than the reverse. The fact that one builds in the frames early in the job is in itself disadvantageous, although one has always had to install certain frames, whatever the material, as the work proceeds. Frames built-in early in a job are always so liable to damage. Personally, I do not think steel frames ever look as nice as wood, especially in regard to the architraves and the finish of the plaster against the metal which is far from easy to achieve really neatly. Having no architraves to fix on site certainly saves money and site time, but it is only an advantage if the ultimate job looks as good. As to cost, I doubt that there is much to choose between metal or wood, unless of course they are damaged during building, when the wood is much more easily put right than is the metal.

Bricklaying or partitioning can be a little more complicated where steel frames are used as owing to the incorporation of the architraves they project in such a way that a line cannot be fixed easily, but even this trouble has been overcome by at least one well-known firm who supplies jobs with a very simple gadget to which the line is attached, and the gadget does not harm the frame unless it is used carelessly.

The most important factor in the installation of metal door frames is to ensure that they are extremely carefully fixed, and I have experienced many instances where they are not, as it is quite impossible to make adjustments to them as one can to wood frames and linings when hanging the doors. It is therefore of the utmost importance to see that they are really and precisely vertical and that the two jambs are exactly parallel; the last point is overcome by the supply of ties at the base of the frame which remain in position until all the surrounding construction is completed. To achieve strict verticality is, in practice, less easy than it sounds since the frames have to be propped up during the time that the brickwork or other carcase material rises. The slightest amount of inclination out of the vertical makes the proper hanging of doors very difficult, as the hinges are already fixed to the frames and there are no adjustable door stops. It is very important also that the frames are carefully fixed in relation to the finished floor level of the room as they are very precisely made to allow for the necessary clearances. At the moment it may not be possible, owing to the restrictions on the use of zinc, but I prefer all metal frames, especially those to be used externally, to have a galvanized or metal spraying treatment to ensure protection of the metal should the finishing become defective at any time.

Normally, metal frames will carry a small amount of load, and some makers suggest that if there is only a limited amount of brickwork or concrete blockwork above them it can be carried without a lintel. Personally, however, I prefer to introduce a lintel, unless the weight to be carried is very small, and certain of the manufacturers of frames have produced a light steel lintel supplied and designed for use with these frames which is particularly useful.

It is most important to take certain precautions when ordering metal door frames. First, the hand of the door when hung must be given since the hinges and lock striking plates are put on at the works; this means, of course, that in consequence the hands of the doors cannot be changed and this fixing of the hands of doors may, on occasions, be a nuisance in later years but it is unavoidable. Secondly, it is also most important that the supplier should be given full information of the type and size of doors and, above all, the thickness which it is proposed to use. The type of lock should also be given and it is advisable to state the floor construction on which they are to rest. Full information about metal door frames is available in the recently re-issued British Standard 124[5].

M.O.W. LECTURES

JANUARY 21

GLOUCESTER at 7 p.m. "SITE COSTING FOR BUILDERS," by L. R. Abel, Technical Information officer, Ministry of Works, in the Wheatstone Hall (City Museum), Brunswick Road.

JANUARY 22

BANBURY at 7 p.m. "SOME PROBLEMS OF TILED AND SLATED ROOFS," by G. J. Langdon-Thomas, A.R.I.B.A., A.A.Dip., of the Building Research Station, Department of Scientific and Industrial Research, in the Reference Room, Public Library, Marlborough Road.

CARDIFF at 7 p.m. "ESSENTIALS OF GOOD CONCRETING," by E. E. H. Bate, M.B.E., M.C., B.Sc., A.M.I.C.E., Chief Works Engineer, Ministry of Works, in the Lecture Theatre, Gas Board's Showrooms, St. John's Square.

CHATHAM at 7.15 p.m. "LIGHTWEIGHT CONCRETES," by T. Whitaker, M.Sc., A.M.I.C.E., A.M.I.Mun.E., of the Building Research Station, Department of Scientific and Industrial Research, at the Medway Technical College, 370 High Street.

DARLINGTON at 7 p.m. "PAINTING TRADITIONAL BUILDINGS," by T. A. Baker, of the Building Research Station, Department of Scientific and Industrial Research, at the Technical College, Northgate.

JANUARY 23

BARNSLEY at 7.15 p.m. "NEW TIMBERS IN BUILDING," by B. J. Rendle, B.Sc., A.R.C.S., Forest Products Research Laboratory, Department of Scientific and Industrial Research, at the Technical College, Church Street.

NEWPORT, I.O.W., at 7 p.m. "HEATING AND HEAT INSULATION," by G. D. Nash, A.R.I.B.A., Dip.T.P., of the Building Research Station, Department of Scientific and Industrial Research, in the Regency Hall (Weeks Ltd.), High Street.

NOTTINGHAM at 7.15 p.m. "STRUCTURAL USE OF REINFORCED CONCRETE IN BUILDING," by A. E. Hewitt, A.M.I.Struct.E., Senior Structural Engineer, Ministry of Works, in the Gas Showrooms, Lower Parliament Street.

SWANSEA at 7 p.m. "ESSENTIALS OF GOOD CONCRETING," by E. E. H. Bate, M.B.E., M.C., B.Sc., A.M.I.C.E., Chief Works Engineer, Ministry of Works, Y.M.C.A., St. Helen's Road.

JANUARY 24

MACCLESFIELD at 7.15 p.m. "MODERN DEVELOPMENTS IN THE USE OF TIMBER IN BUILDING," by R. M. Beswick of the Timber Development Association, in the Brocklehurst Memorial Hall.

TOTTENHAM at 7.30 p.m. "INTRODUCTION TO SITE COSTING FOR BUILDERS," by R. H. James, Ministry of Works, at the Tottenham Technical College, High Road, London, N.15.

JANUARY 25

MAIDSTONE at 7.15 p.m. "GOOD PRACTICE IN DOMESTIC DRAINAGE," by F. J. Crabb, B.Eng., M.I.C.E., F.R.San.I. of the Building Research Station, Department of Scientific and Industrial Research, at the Technical College, Tonbridge Road.

JANUARY 28

TOTTENHAM at 7.30 p.m. "SITE INVESTIGATION," by N. W. B. Clarke, M.Eng., M.I.C.E., M.I.Struct.E., of the Building Research Station, Department of Scientific and Industrial Research, at the Tottenham Technical College, High Road, London, N.15.

JANUARY 29

KINGSTON-UPON-HULL at 7.15 p.m. "FOUNDATION PROBLEMS," by L. R. Creasy, B.Sc., A.M.I.C.E., Superintending Structural Engineer, Ministry of Works, in the Reception Room, Guildhall.

FOUNDATIONS FOR MODERN BUILDINGS—2

By Rolt Hammond

In last week's article the author discussed various piling systems and concluded by stressing the importance of soil tests particularly in clay and similar soils. When samples have been taken they should be immediately placed in air-tight tins and sealed with paraffin wax to make sure that no water evaporates. The sample should reach the testing machine in the soil-testing laboratory in exactly the same state as when it was extracted from the ground. Standard tests are carried out for determining permeability, compressive and shear strengths : the permeability test is very important where clay is to be used on any site where watertightness is an important factor. In this article Mr. Hammond discusses further methods of putting down foundations.

PILING is a very well tried and very ancient method of putting down new foundations and strengthening existing ones, but to-day there are also many new foundation methods which have come about mainly as a result of the more accurate and wider knowledge of the properties of various soils and rocks gained by patient research in the laboratory and experience in the field.

The method selected will be determined largely by the nature and conditions of the site, and may consist of ground water lowering, chemical consolidation or grouting, or a combination of these. Thus, the South Bank Scheme for the Festival of Britain is sited on marshland, the south side of the Thames on either side of the County Hall acting as a kind of sponge for the water which seeps through the underlying porous strata from the surrounding Surrey hills. For carrying out the foundations of the Festival Hall, the only permanent structure on the site, use has been made of the Blaw Knox well-point system of ground water lowering. It is claimed that this is the largest site in Great Britain where this well-established method has been employed.

The ground is particularly difficult as regards foundations; from existing ground level at 14.23 feet above O.D., there was an average of about 8 feet of made-up ground, below which were various clay strata and finally ballast. The foundations of the Festival Hall rest on the latter at 11 feet below O.D. for the lowest basement. Normal ground water level, which varied with the state of the tide, was at 1.42 feet above O.D. Having carefully investigated a number of alternative methods, the contractors, Holland and Hannen and Cubitts, Ltd., decided to adopt ground water lowering, which entailed the jetting of 340 well points spaced at intervals of 3 feet around the site and over a total perimeter of 1,040 feet. Five six-inch wellpoint pumps fitted with high capacity vacuum units were connected to a six-inch header pipe, four pumps being in regular operation and one held as a standby.

The wellpoints were jetted to the required depth through many different kinds of strata, and up to 50 points were installed in a single day; the jetting pump delivering 350 gallons per minute up to a pressure of 150lb per sq in. Under the worst conditions, about ten wellpoints were installed in one day. Operations began on May 18, 1949, and the four pumps were started on June 19, their total discharge being at first 150,000 gallons an hour, but after a few days of continuous pumping this discharge had dropped to 80,000 gallons an hour. Maximum capacity of the four pumps was 240,000 gallons an hour. Throughout the entire period of excavation dry conditions prevailed in the foundation, the water being maintained at a level of 1 foot below the lowest point of the foundation. The foundation work was thus carried out without using heavy timbering, a very important point nowadays because timbermen who understand this class of work are scarce and expensive.

In this case the soil in the foundation was analysed by Ground Explorations, Ltd., for its sulphate content, from which it was found that no special bricks or cement were necessary even in water-bearing ground. A special waterproofing material is carried up the outside of the structural containing walls and is protected by a skin wall of 4½ inches of brickwork; this material has a hessian base impregnated with bitumen and it weighs about 10lb per yard. It is applied by means of a blowlamp, and is very convenient to use, causing little interference with other work in progress.

Where foundations are to be put down in gravel or sand, either dry or water-bearing, the problem may be solved by the Joosten or Guttman chemical consolidation processes undertaken by John Mowlem and Co., Ltd. Although such strata should preferably be clean, they may contain small amounts of foreign matter, but sands with an effective grain size of less than 0.1 millimetre are too small for chemical injection. Clays, silts and peats cannot be treated at all by this method, and in such soil we have to consider such expedients as freezing, compressed air or piling.

In the Joosten process, two solutions are injected into the ground simultaneously; they react almost at once, binding the grains of sand and gravel together to form an artificial sandstone impervious to the passage of water. This process was used with outstanding success for the underpinning of a party wall when the foundations were being prepared for the headquarters of the Royal Institute of British Architects at Portland Place, London (Fig. 9); the design called for steel sheet piling to enclose the basement, as there was a depth of about 6 feet of waterlogged ballast overlying the London clay. On the east side the party wall consisted of an internal wall dividing one of several typical London houses of the early nineteenth century.

The main problem to be overcome was to ensure that no damage was sustained by these historic buildings, and for that reason the Joosten process was selected. Injection pipes were driven from the basement of the adjoining house during its demolition, so that the weight of the wall was taken down to the underlying clay stratum. The wall of chemically consolidated ballast was made thick enough to act as a dam or closure wall to the sheet piling, which eventually surrounded three sides of the new basement, and also to support the ground where part of the new work had to be built under the existing wall.

Ground water lowering has been combined with chemical consolidation for foundation work and a very striking instance of this is provided by the work carried out in connection with the rebuilding of Messrs. Bentall's premises at Kingston-on-Thames by John Mowlem and Co., Ltd., public works contractors, in

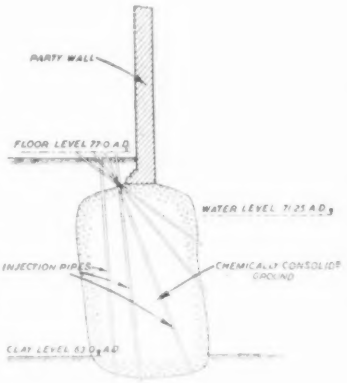


Fig. 9

Underpinning of party wall foundation for the R.I.B.A. headquarters, by a chemical consolidation process.

accordance with the instructions of Hurst, Pierce and Malcolm, consulting engineers for the work. The building is the oldest portion of these stores and it was kept in full business occupation while the new foundation raft was installed 7 feet below the old foundations and 6 feet below the level of the ground water. Walls and piers were supported by solidifying the ballast stratum—a mixture of sand and gravel peculiarly suitable for such treatment—to a depth of 3 feet below digging level by driving injection pipes into the waterlogged ground.

A system of shallow wells was then put down and all these wells were connected together by a ring main, and the water table was lowered 12 feet over the entire site; walls and piers were then underpinned and the foundation raft and grillages placed. Chemical consolidation by the Joosten process proceeded at the same time, duplicate pumps being provided so that the subsoil was kept dry throughout the course of the work, and no sand was removed from the ground. The financial benefit of this work was tremendous, since an important shopping area was available for five months longer than would have been the case if demolition had taken place from the outset. Each well was 12 inches in diameter and special filter tubes were inserted, the space between them and the ground being filled with graded filter material as the boring tubes were withdrawn. Pumping was continued until the building had been demolished, and sufficient load placed on the raft to prevent uplift. Wells were then withdrawn one at a time, the holes being filled with ballast as the filters were withdrawn.

Where complicated excavation may be involved in building work, the freezing process has much to recommend it. It is not by any means new, having been

in existence for some sixty years, but engineers look upon it as being thoroughly reliable; it was first used in South Wales in 1862 for sinking a mine shaft through water-bearing strata. It was also applied successfully to a very difficult foundation problem connected with the Grand Coulee Dam in the United States in 1936, where a deep deposit of glacial clay overlay the granite bedrock. Deep excavation through this silt might have caused a slide of 200,000 cubic yards of this material from areas outside the immediate neighbourhood of the foundation, through a channel in the rock. It was therefore decided to form an anchor block of frozen silt about 3,000 cubic yards in volume, in the form of an arch 100 feet long, 20 feet thick and 40 feet high; this effectively prevented the flow of any further silt.

In this case the ice wall was formed by driving 377 tubes from the upper surface of the slide down to the level of a rock-filled timber crib, originally built to hold the slide, but which did not succeed in doing so. These tubes were 43 feet in length, arranged in eight parallel rows along the length of the dam, spaced 30 inches centre to centre. Each tube comprised a 3-inch diameter outer tube closed at the bottom with a screwed conical driving point; brine flow from the freezing plant, operating on the principle of a very large-scale refrigerator, was taken down the tube through a feeder pipe open at the bottom. A solution of common salt of about 95 per cent saturation was employed, with a freezing point of —20 degrees Centigrade when still. Circulation of brine was maintained by centrifugal pumps at a velocity of about 1 foot per second; the array of freezing tubes was arranged in 24 groups controlled by valves from each set of feeders to regulate formation of ice. Brine was cooled by two ammonia compressors having a combined capacity of 80 tons of ice a day; with the plant in full operation, formation of ice took about 21 days.

Waddington and Mussche, two eminent authorities on the subject of freezing ground for foundation and shaft-sinking operations, have written: ". . . This use of the freezing process for a temporary and comparatively shallow freezing of the ground forms a marked contrast to the methods used in deep shaft sinking and may be a pointer to the further development of the process for engineering works of a greater variety of range." Although they do not go so far as to suggest that the freezing process is more economical than recognized methods of straight sinking of shallow shafts in running sand and silt, such as might be necessary, for example, in large building operations, they do maintain that it will probably be more economical for complicated excavation work. In support of this contention, they quote the work successfully carried out at Antwerp in connection with a tunnel under the Scheldt.

Moreover, they believe that there should be a great future for the process in such operations as underpinning of foundations, buildings and bridges; consolidation of ground where tunnels have to be driven near densely built-up areas; and to form joints between steel cofferdams and masonry or concrete structures. They have advocated an idea which will no doubt appeal strongly to civil engineering and building contractors, namely, the development of portable refrigerator units for relatively small works, and this would appear to be a profitable field which could be explored by manufacturers of such equipment. Generally speaking, freezing is not economical at a depth of less than 100 feet, owing to the high capital cost of the plant; its merits increase very rapidly with greater depths than this.

Increased attention has been devoted in recent years to a subject which in the past has been sadly neglected, namely, the rational design and construction of foundations able successfully to withstand the action of dynamic loads. A vast amount of research is still needed to determine the effects of vibration on different types of soil, and this field has been reviewed by the author in collaboration with J. H. A. Crockett, B.Sc., A.M.I.C.E., acknowledged as one of the leading authorities on this little-known subject. Crockett successfully mounted a machine weighing 110 tons on compressed-air springs, with hydraulic dead-beat damping. He has also applied spring-pads of timber and cork to frequency control, sometimes in conjunction with helical and leaf springs. The total mass of the heaviest machine of this type of setting is upwards of 700 tons.

Although the vibration of large forging hammers represents the most severe type of machine vibration, all machinery of impacting and reciprocating type transmit vibrations to the ground in a greater or lesser degree. The design of machine foundations is an extremely complex matter calling for specialized knowledge and considerable experimental equipment. Harmful effects of vibration on structures are many and varied and may sometimes be extremely serious, even causing collapse. Human perception of vibration is an extremely important aspect of foundation design where machinery has to be installed in a building near houses or hotels where it may be likely to cause annoyance, or even to be harmful. A vibration with an amplitude of one thousandth of an inch is readily perceptible, but most people cannot detect even one-fifth of this. Frequency is also extremely important, a movement of one hundredth of an inch at one cycle per second being almost unnoticeable; furthermore, the human nerve system is not generally aware of frequencies between 15 and 25 cycles per second, which are below the audible range. The designer of machine foundations should make every effort to reduce transmission of ground vibrations into buildings to the order of comfortable conditions.

In this connection it is important to note that by recent Acts of Parliament anyone objecting to a neighbouring industrial noise nuisance can take legal action to have it stopped, or at least to compel those responsible for it to reduce it to a reasonable extent. Crockett recently quoted a case where a Borough Council in London found that some of its tenants were much upset by noise and vibration next door in a factory in which there were thirty or forty small lathes and other machine tools at work. Most of the noise in the house came from those high-frequency ground vibrations which could be distinctly heard as well as felt, and these were transmitted up into the floors and the walls of the house through the foundations. The Borough Medical Officer agreed with the contention that the vibrations were annoying and that vibration of this type would probably be the chief cause in producing nervous collapse in the tenants, especially in the housewives who were at home most of the day, and indeed these ladies showed obvious signs of strain.

The legal position appeared to be so strong that although the case never reached the courts, the factory manager agreed to stop the trouble, which could only be done in one of two ways: either by moving all the machines to another part of the factory remote from the dwellings, or by mounting all the machines on some sort of resilient foundation. Although these machines were of many different types and sizes, it was found that all of them could be successfully mounted on good rubber cushions, and this was done with complete success.

Another special foundation problem arises where buildings are constructed on strata liable to subsidence from mining operations. This is a case where sound geological knowledge of the district must be combined with the experience of the structural engineer. The mining engineer can be very helpful in forecasting from his experience those settlements and surface movements for which the designer has to allow. In tackling this problem, it is generally good practice to subdivide buildings into small independent areas, keeping them narrower in the direction of maximum surface slope or settlement. Practice has proved that deep cellular rafts or frameworks of reinforced concrete provide the most suitable solution to the problem; if the superstructure is of brickwork, the strength of the latter can be vastly increased by adding steel reinforcing bars for several courses at the base and at the top of the walls.

CONTRACT • NEWS •

OPEN

Notes below give basic date of contracts open under locality and authority which are in bold type. References indicate: (a) type of work, (b) address for application. Where no town is stated in the address it is the same as the locality given in the heading. (c) deposit. (d) last date for application. (e) last date and time for submission of tenders. Full details of contracts marked ★ are given in the advertisement section.

BUILDING

ANGLESEY E.C. (a) 2 classrooms at St. Cybi School, Holyhead. (b) County Architect, Shire Hall, Llangefni. (c) 2gns. (d) Jan. 21. (e) Feb. 4.

* * *

BERKSHIRE C.C. (a) 2 pairs of police houses, Love Lane, Newbury. (b) County Architect, Wilton House, Parkside Road, Reading. (c) 2gns. (e) Feb. 1.

* * *

BEXHILL B.C. (a) Sports pavilion at Sidley Recreation Ground. (b) Borough Engineer, Town Hall. (c) 2gns. (e) Jan. 28.

* * *

BOOTLE B.C. (a) Boys' grammar-technical school at New Park Farm site, Bridge Lane, Netherton. (b) Borough Surveyor, Town Hall. (c) 2gns. (e) Feb. 7.

* * *

BRADFORD C.C. (a) Infants' schools at Reevy Hill and Canterbury Avenue. (b) City Architect, Town Hall. (e) Jan. 28 for one or both.

* * *

BRADFORD C.C. (a) 13 two-classroom units at various school site. (b) City Architect, Town Hall. (e) Jan. 28.

* * *

CAMELFORD R.C. (a) Erection of (1) 4 houses at Potters Lane, Boscastle, (2) 4 at Pengelly Road, Delabole, (3) 6 at Bossinney Road, Tintagel, (4) 6 at Tresparrett, St. Juliot and (5) 2 at Churchtown, Otterham, with incidental works. (b) Messrs. Andrew and Randell, Hepworth Chambers, St. Austell. (e) Feb. 6.

* * *

CHESTER C.C. (a) Hostel block at Wrenbury Hall Colony, nr. Nantwich. (b) County Architect, The Castle, Chester. (c) 2gns. (d) Jan. 21. (e) Feb. 15.

* * *

DAGENHAM B.C. (a) Public convenience at Morland Road, Broad Street. (b) Borough Engineer, Civic Centre. (c) 2gns. (e) Jan. 28.

* * *

DENBIGHSHIRE E.A. (a) Erection of phase 1 of girls' grammar school at Ruabon, nr. Wrexham. (b) County Architect, Grove Park, Wrexham. (c) £5. (e) Feb. 11.

* * *

DEVON STANDING JOINT COMMITTEE. (a) Police house at Axminster. (b) County Architect, 97, Heavitree Road, Exeter. (c) 3gns. (d) Jan. 19.

* * *

DEVON STANDING JOINT COMMITTEE. (a) 2 pairs of police houses at Feather Bed Lane, Exmouth. (b) County Architect, 97, Heavitree Road, Exeter. (c) 3gns. (d) Jan. 19.

* * *

DUNMOW R.C. (a) 1 pair of houses and 1 pair of bungalows at Cranham Road, Broxted. (b) The Council Offices. (c) 3gns. (e) Feb. 4.

* * *

DURHAM C.C. (a) Erection of (1) technical college at Durham (2) technical college at Easington and (3) infants' school at Peterlee. (b) County Architect, Court Lane. (d) Jan. 19.

EAST BARNET U.C. (a) Block of 12 flats with outbuildings, etc., at Fordham Road, New Barnet. (b) Engineer and Surveyor, Town Hall, Station Road, New Barnet. (c) 2gns. (e) Jan. 29.

* * *

EAST RIDING C.C. (a) 2 pairs of police houses at Lowfield Road, Anlaby. (b) County Architect, County Hall, Beverley. (c) 2gns. (e) Feb. 1.

* * *

ELY R.C. (a) 4 pairs of houses with foul drainage, etc., at Green Drove, Coveney. (b) Engineer and Surveyor, Council Offices, 11, Lynn Road. (c) Ign. (e) Jan. 28.

* * *

ESHER U.C. (a) (Contract No. 104a) 8 houses, (Contract No. 104b) 16 houses, (Contract No. 104c) 10 houses, and (Contract No. 104d) 6 houses on the Slough Farm Estate, Claygate. (b) Engineer and Surveyor, Council Offices. (c) Ign each contract. (e) Feb. 6.

* * *

ESSEX C.C. (a) Junior and infants' school, Debden Estate, Loughton (approx. value of contract £123,000). (b) County Architect, County Hall, Chelmsford, with full details. (d) Jan. 26.

* * *

ESSEX C.C. (a) Primary school at Epping Green (approx. value of contract £16,500). (b) County Architect, County Hall, Chelmsford. (d) Jan. 26.

* * *

ESSEX C.C. (a) Additional cloakrooms at Colchester Royal Grammar School (approx. value of contract £4,300). (b) County Architect, County Hall, Chelmsford. (d) Jan. 23.

* * *

FLINTSHIRE C.C. (a) Secondary school at Saltney. (b) County Architect, Llwynegrin, Mold. (c) 3gns. (e) Feb. 12.

* * *

FROME R.C. (a) 5 pairs of houses with ancillary services, paths, etc., at Mells Village. (b) Humphrey H. Goldsmith, 18, Gay Street, Bath. (c) 2gns. (d) Jan. 22.

* * *

LOUTH B.C. (a) Erection of hall for old-age pensioners at Ramsgate, Louth. (b) Borough Surveyor, Town Hall. (e) Jan. 31.

* * *

LOWESTOFT B.C. (a) 18 bungalows and 2 pairs of houses on the Gunton Estate, North Lowestoft. (b) Borough Engineer, Town Hall. (c) gns. (e) Feb. 4.

* * *

MANCHESTER C.C. (a) Public convenience at Kingsway, East Didsbury. (b) City Architect, Town Hall. (c) Ign. (e) Feb. 9.

* * *

MANSFIELD WOODHOUSE U.C. (a) 4 shops and flats on the Cox's Lane Estate. (b) Mr. W. Richardson White, 33, Albert Street. (c) 2gns. (e) Jan. 26.

* * *

N. IRELAND—BALLYCLARE U.C. (a) 78 houses and flats with road works and site works, Charles Drive site. (b) Messrs. Houston and Beaumont, 6, Union Street, Lurgan. (c) £5. (e) Jan. 31.

* * *

NEW WINDSOR B.C. (a) 28 houses, Imperial Road site. (b) Borough Engineer, Kipling Memorial Buildings, Alma Road, Windsor. (c) 2gns. (e) Feb. 11.

* * *

NORFOLK C.C. (a) (1) 1 pair of houses at Aylsham, (2) 1 pair at Dersingham, (3) 1 house at Swanton Morley, and (4) 1 house at Horsham St. Faiths, for police, and (5) 1 house at Burnham Market, (6) 1 house at Briston, for District Nurses. (b) County Architect, 27, Thorpe Road, Norwich, stating house or houses. (e) Feb. 13.

* * *

NORTH RIDING E.C. (a) Primary school at Haxby, nr. York. (b) Secretary for Education, Education Offices, County Hall, Northallerton. (e) Feb. 8.

* * *

OAKHAM U.C. (a) 18 houses and site works off Burley Road. (b) Messrs. F. J. Lenton and Partners, 16, Broad Street, Stamford, Lincs. (d) Jan. 31.

* * *

OLDHAM B.C. (a) Extension to assembly hall at Hollins Secondary School, Lyndhurst Road (separate trades). (b) Architect, Education Offices, Union Street West. (c) 2gns. (e) Feb. 7.

* * *

OSSETT B.C. (a) Erection of Lavatory block and demolition and clearance of existing lavatories at Cross Ryecroft Street. (b) Borough Surveyor, Town Hall. (c) Ign. (e) Jan. 28.

* * *

OSWALDTWISTLE U.C. (a) 20 houses and 7 bungalows on the Grove Street Estate. (b) Engineer and Surveyor, Town Hall. (c) 2gns. (e) Feb. 9.

* * *

PETERBOROUGH C.C. (a) (Group A) 24 houses, (Group B) 12 houses, (Group C) 24 houses, (Group D) 6 houses, (Group E) 6 houses and (Group F) 18 houses, Dogsthorpe North Estate. (b) City Engineer, Town Hall. (c) 2gns. (d) Jan. 24, prior to which appointments should be made to visit site. (e) Feb. 18.

* * *

REIGATE B.C. (a) 63 houses and outbuildings on Part I of the Rusheets Farm Estate. (b) Borough Engineer, Town Hall. (c) 5gns. (e) Feb. 1.

* * *

ROMSEY B.C. (a) 24 flats in 6 blocks, Hillside Avenue. (b) Borough Engineer, Town Hall. (c) Feb. 7.

* * *

ST. ALBANS R.C. (a) (1) 14 houses and (2) 4 flats, Marford Estate, Wheathampstead. (b) Council's Architect, 43, Upper Lattimore Road. (c) Ign each contract. (e) Jan. 28.

* * *

STAFFORD B.C. (a) 92 houses, Manor Estate. (b) Borough Surveyor, Mount Street. (d) Jan. 19.

* * *

SCOTLAND—ZETLAND C.C. (a) 8 houses each at Cullivoe, Virkie, Whalsay, Aith, Hamnavoe, Bressay, Cunningsburgh, Mid Yell, Sound and Walls. (b) Mr. David A. Adamson, 48, Melville Street, Edinburgh, 3, for each trade. (e) Feb. 9.

* * *

SOUTH CAMBRIDGESHIRE R.C. (a) 10 houses at Great Abington. (b) Council's Architect, County Hall, Hobson Street, Cambridge. (c) 2gns. (e) Jan. 29.

* * *

SUNDERLAND B.C. (a) Primary school and kitchen dining-room, Grindon Estate. (b) Borough Architect, Grange House, Stockton Road. (c) 2gns. (e) Feb. 1.

* * *

TADCASTER R.C. (a) (1) 26 houses and (2) construction of water main, road and drainage works at Auster Bank. (b) Engineer and Surveyor, Station Road. (c) 2gns each contract. (e) Jan. 31.

* * *

WEYMOUTH AND MELCOMBE REGIS B.C. (a) 24 flats, Downclose Estate, Weymouth. (b) Borough Engineer, 6, Pulteney Buildings, Weymouth. (c) 2gns. (e) Feb. 4.

PLACED

Notes on contracts placed state locality and authority in bold type with (1) type of work, (2) site, (3) name of contractor and address, (4) amount of tender or estimate. † denotes that work may not start pending final acceptance, or obtaining of licence, or modification of tenders, etc.

BUILDING

SHEFFIELD EDUCATION COMMITTEE. (1) Secondary school. (2) Greenhill. (3) J. F. Finnegan and Co. (Sheffield), Ltd. (4) £161,730. (1) School. (2) Stradbroke. (3) Direct labour. (4) £110,661.

* * *

MIDDLESEX C.C. (1) Secondary school. (2) Claremont Road, Hendon. (3) Perry's (Ealing), Ltd., Uxbridge Road, W.5. (4) £150,129.

* * *

ESSEX COUNTY COUNCIL. (1) Works in connection with N.E. Essex Technical College. (2) Colchester. (3) J. Moss and Son, Ltd., Shrub End, Colchester. (4) Total cost of scheme £250,000.

* * *

LEWISHAM B.C. (1) 50 flats. (2) Adelaide Avenue. (3) W. J. Simms, Sons and Cooke, Ltd., 78, Mount Street, W.1. (4) £103,241.

* * *

BURY ST. EDMUNDS. (1) Rebuilding. (2) West Suffolk General Hospital. (3) H. G. Frost, Westgate Road, Bury St. Edmunds. (4) £88,794.

* * *

SOUTHAMPTON B.C. (1) Primary school. (2) Heathfield, Sholing. (3) A. J. Dunning and Sons (Weyhill), Ltd., Weyhill, Southampton. (4) £85,503.

OFFICIAL ANNOUNCEMENTS

APPOINTMENTS • CONTRACTS • TENDERS

Rate 25/- per inch Single Column *Close for press 1st post Monday for following Thursday Issue*

APPOINTMENTS

AMENDED ADVERTISEMENT.

PONTYPRIDD URBAN DISTRICT COUNCIL.

APPOINTMENT OF QUANTITY SURVEYOR.

APPLICATIONS are invited for the appointment of a QUANTITY SURVEYOR at a salary in accordance with Grade VII of the A.P.T. Division of the National Scales of Salaries, viz.: £685 rising by three annual increments of £25 to a maximum of £760. The appointment is subject to the provisions of the Local Government Superannuation Act, 1937, the passing of a medical examination, and the giving of one month's notice on either side for termination.

Applicants must be Associate Members of the Royal Institution of Chartered Surveyors (Quantity Section) and have had considerable experience, and be competent to take off and prepare Bills of Quantities for all types of buildings.

Form of application is obtainable from the Council's Architect, Mr. W. C. Evans, Municipal Buildings, Pontypridd, Glam., and should be obtained by intending applicants.

Applications must be delivered, appropriately endorsed, to the undersigned not later than the 31st January, 1952.

Canvassing will be a disqualification, and candidates must disclose any relationship to members or senior officers of the Council.

A Council house will be available for the successful candidate if required.

JOHN HILTON,
Clerk to the Council.

Municipal Buildings,
PONTYPRIDD, Glam.
1st January, 1952. [6071

MINISTRY OF WORKS.

THERE are vacancies in the Chief Architect's Division for ARCHITECTURAL ASSISTANTS and LEADING ARCHITECTURAL ASSISTANTS with recognised training and fair experience. Successful candidates will be employed in London and elsewhere on a wide variety of Public Buildings, including Atomic Energy and other Research Establishments.

Salary: Architectural Assistants £340-£575 per annum. Leading Architectural Assistants £570-£675 per annum. Starting pay will be assessed according to age, qualifications and experience. These rates are for London, a small deduction is made in the Provinces.

Although these are not established posts, many of them have long-term possibilities and competitions are held periodically to fill established vacancies.

Apply in writing, stating age, nationality, full details of experience, and locality preferred, to Chief Architect, Ministry of Works, Abell House, John Islip Street, London, S.W.1, quoting reference WG10/BS. [5763

COUNTY BOROUGH OF GRIMSBY.

BOROUGH ENGINEER & SURVEYOR'S DEPARTMENT.

SENIOR ARCHITECTURAL ASSISTANT.

APPLICATIONS are invited for the appointment of a SENIOR ARCHITECTURAL ASSISTANT in the Architects' Section of the above Department in accordance with the conditions of service and scale of salary of the National Joint Council for A.P.T. Grade VII (£685—£25—£760 per annum).

The appointment is terminable by one month's notice on either side and is subject to the provisions of the Local Government Superannuation Act, 1937. The successful candidate will be required to pass a medical examination.

HOUSING ACCOMMODATION WILL BE AVAILABLE FOR THE SUCCESSFUL CANDIDATE IF MARRIED.

Applications stating age, qualifications and details of experience, together with copies of two recent testimonials, must be suitably endorsed and delivered to the undersigned not later than first post on Saturday, 2nd February, 1952.

J. V. OLDFIELD,
Borough Engineer & Surveyor.

Municipal Offices,
Town Hall Square,
GRIMSBY.
January, 1952. [6098

APPOINTMENTS—contd.

DRAUGHTSMEN, ARCHITECTURAL AND CIVIL ENGINEERING AND MECHANICAL AND ELECTRICAL ENGINEERING.

THE Civil Service Commissioners invite applications for permanent appointments to the basic grade. Posts are in various Government Departments and cover a wide variety of subjects, and specialists in many different fields of work are required.

Applications will be accepted at any time up to and including 31st March, 1952. Selected candidates will be interviewed as soon as possible after the receipt of their application forms. Successful candidates may expect early appointments. Candidates are advised to apply as early as possible.

Candidates must be at least 20 and under 60 years of age on 1st January, 1951.

Candidates must have obtained an Ordinary National Certificate or an equivalent or higher qualification except that, for the posts of Architectural and Civil Engineering Draughtsmen, candidates will be admitted who, in place of this qualification, can produce evidence of such professional training and experience as fits them for consideration.

Salary on entry (in London) ranging from £320 at age 20 to £480 (men) or £470 (women) at age 28 or over, rising to £575 (men) or £500 (women). Scale elsewhere from £10 to £30 less according to salary and town. Prospects of promotion.

Further particulars and application forms from Civil Service Commission, Scientific Branch, Trinidad House, Old Burlington Street, London, W.1, quoting No. S68-69/51. Completed application forms should be returned as soon as possible. [6089

CORPORATION OF GREENOCK.

APPOINTMENT OF PRINCIPAL ARCHITECT.

APPLICATIONS are invited for the position of PRINCIPAL ARCHITECT on the staff of the Burgh Surveyor and Master of Works. Applicants should be Associates of the Royal Institute of British Architects or hold equivalent qualifications, and should have good professional training and experience in housing design and general architectural work. The person appointed will be in full charge of the Achitectural Department of the Corporation under the control and direction of the Master of Works.

The salary will be on Grade A.P.T. VII, the commencing salary being £685 rising, on satisfactory service, to a maximum of £760 per annum, with placing on the Grade according to experience.

Suitable housing accommodation will, if required, be offered to the successful applicant, and he will be required to contribute to the Corporation's Superannuation Scheme.

Applications, stating age, marital state, qualifications and technical training and present and previous appointments, should be addressed to the undersigned not later than FRIDAY, 1st February, 1952.

JOHN LIDDELL,
Town Clerk.

Municipal Buildings,
GREENOCK.
14th January, 1952. [6102

UNIVERSITY OF SYDNEY.

APPLICATIONS are invited for the following positions:—

TWO LECTURESHIPS IN ARCHITECTURE.

LECTURESHIP IN ARCHITECTURE (Structural Design).

The above vacancies mainly arise from a decision to establish permanent lectureships in place of temporary or part-time appointments.

Salaries will be within the range of £A650—£A50—£A1,000 with the addition in all cases of cost of living adjustment (at present £A159 males, £A121 females). Salaries will be subject to deductions under the State Superannuation Act. The commencing salaries will be fixed according to the qualifications and experience of the successful candidates.

Further particulars and information as to the method of application may be obtained from the Secretary, Association of Universities of the British Commonwealth, 5, Gordon Square, London, W.C.1.

The closing date for the receipt of applications is 3rd March, 1952. [6103

APPOINTMENTS—contd.

COUNTY BOROUGH OF DONCASTER.

BOROUGH ARCHITECT'S DEPARTMENT.

APPLICATIONS are invited for the following appointments:—

(a) TWO ASSISTANT ARCHITECTS, Grade A.P.T. VI (£648-£710 per annum).

Applicants must be qualified architects and preference will be given to those with experience in the design and construction of schools and housing.

(b) TWO ASSISTANT QUANTITY SURVEYORS, Grade A.P.T. IV (£530-£575 per annum).

Applicants should be capable of taking off sections of major building works, working up, and the settlement of final accounts. Preference will be given to those who have passed the Intermediate Examination of the Royal Institution of Chartered Surveyors in Quantities Sub-Division.

The appointments, which will be established ones, will be subject to one month's notice on either side and to the tefms of the Local Government Superannuation Act, 1937. The successful applicants will be required to pass a medical examination.

Housing accommodation may be available if required.

Applications, stating age, qualifications and previous experience, together with copies of three recent testimonials, should be forwarded to the undersigned not later than Thursday, 31st January, 1952.

Canvassing, directly or indirectly, will be a disqualification.

H. S. ESSENHIGH,
Town Clerk.

1, Priory Place,
Doncaster.
10th January, 1952. [6101

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ARCHITECTURAL Assistant required in West End Architects' Office, up to R.I.B.A. Intermediate Standard. Must have completed his Military Service.—Apply in writing, stating age, experience and salary required, to Box 6225. [6095

MIDLAND Architect medium-sized office requires Senior and Inter. Standard Assistant Architects, having initiative, contemporary outlook, good draughtsmen willing to take responsibility; bonus scheme in operation. Salary in accordance with experience and ability. Housing. School. Industrial work in progress.—Full details, Box 6219. [6090

IMPERIAL CHEMICAL INDUSTRIES, Ltd., General Chemicals Division, require one or two Assistant Architects in the Architectural Section of their Chief Engineer's Department, Runcorn. Applicants should have had good experience in design and the preparation of working drawings. Other factors being equal, preference will be given to those who have passed the final examination of the R.I.B.A. Salary dependent on age and experience. Membership of Pension Fund.—Apply in writing, quoting E/81, to Staff Manager, Imperial Chemical Industries, Ltd., General Chemicals Division, Cunard Building, Liverpool, 3. [6037

SITUATIONS VACANT

QUANTITY surveyor required by Midland firm of structural engineers, for preparing and finalizing accounts; salary £600 upwards according to experience.—Apply with full details to Box 6218. [6088

PLASTERER'S surveyor and estimator required by W. G. Venn & Sons, 2, Laburnum Villas, Park Rd., Hayes, Middlesex.—Write, stating full particulars and salary required. Only those with experience need apply. [6100

SOFTWOOD importers and builders' merchants covering Midland and Home Counties, whole of South and East Coasts, require superior men for contacting architects, urban, borough and municipal authorities for sales promotion; some experience in trade is essential; good salary, with incentive bonus and pension scheme.—Write with full details of background to Box 6217. [6087

THE CO-OPERATIVE WHOLESALE SOCIETY, Ltd., has a vacancy for a property inspector attached to the Estates Department, Manchester; applications are invited from persons having a sound knowledge of building construction and the building trade generally; candidates should be capable of preparing concise reports and be familiar with plans, estimates, specifications, etc., and they should hold a Building Inspector's Certificate or possess a Higher National Certificate in building.—Applications, stating age, experience and qualifications, to be addressed to the C.W.S., Ltd., Central Labour Department, 1, Balloon St., Manchester, 4, endorsed "Property Inspector, Estate Department." [6079

SITUATIONS WANTED

A.R.I.B.A., A.A.Dip. requires position as chief or senior assistant; 12 years' office experience, less war service.—Box 6107. [6070

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3-TON and 6-ton new "Coles" hoist blocks, fitted with hand geared travelling carriage to run on bottom flange of 6in R.S.J.—Frank Salt & Co., Ltd., Station Rd., Blackheath, Birmingham. [6061

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PLANT FOR HIRE

BULK excavations and site clearing.—Fleet of scrapers and excavators, with all equipments, available for hire or contract.—Please apply Wright Bros. (Earthmovers), Ltd., Crown St., Wolverhampton. Tel. 20651/2 and 24622. [6099

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WANTED, Springfield Buffalo 6/8-ton tandem rollers.—Full details to Charles A. Preece, Ltd., 189, Bowes Rd., London, N.11. Tel. Enterprise 7070. [6104

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